

**California High-Speed Rail Authority**



**RFP No.: HSR 13-57**

**Request for Proposal for Design-Build  
Services for Construction Package 2-3**

**Book IV, Part G.4 – Record of Survey and  
Control Monument Data**

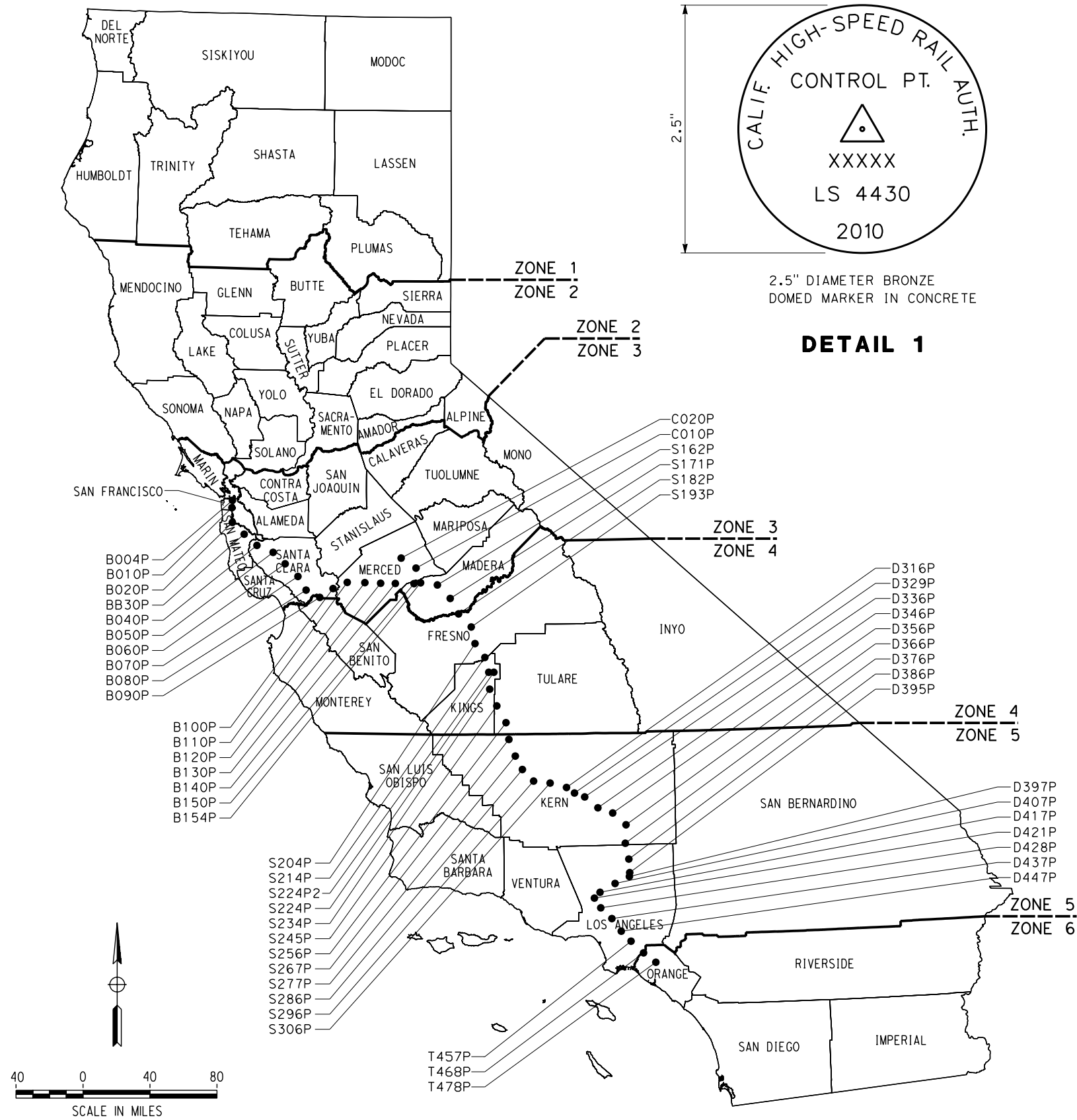
# Table of Contents

SURVEY CONTROL MONUMENTS – SYSTEMWIDE MAP  
SURVEY CONTROL MONUMENTS – SYSTEMWIDE DATA TABLES  
RECORD OF SURVEY – COUNTY OF FRESNO  
RECORD OF SURVEY – COUNTY OF TULARE  
RECORD OF SURVEY – COUNTY OF KINGS  
CONSTRUCTION PACKAGE 2-3 - SURVEY CONTROL MONUMENT DATA AND TIE SHEETS

04/02/2014 - RFP No.: HSR 13-57



2/24/2012 5:20:16 PM CAHSRP.TBL CHSR\_half\_black.plt T:\13259B Calif High Speed Rail\CADD\Figures\Survey-Control-Report\VS-001.dgn



**SURVEYOR'S NOTES:**

1. THE EXHIBIT SHOWS THE PRIMARY SURVEY CONTROL MONUMENTS, BASED ON FIELD SURVEYS, FOR THE CALIFORNIA HIGH-SPEED TRAIN PROJECT (CHSTP).
2. THE CALIFORNIA SPATIAL REFERENCE NETWORK (CSRN) WAS USED TO DETERMINE MONUMENT POSITIONS SHOWN HEREON.
3. POSITIONS PUBLISHED BY THE CALIFORNIA SPATIAL REFERENCE (CSRC) FOR THE CSRN IS THE BASIS FOR ALL MONUMENT POSITIONS, BOTH HORIZONTAL AND VERTICAL.
4. THE DATUM FOR HORIZONTAL POSITIONS IS THE NORTH AMERICAN DATUM OF 1983 (NAD83), NATIONAL SPATIAL REFERENCE SYSTEM OF 2007 (NSR2007).
5. THE EPOCH DATE FOR ALL FOR ALL POSITIONS IS 2007.00
6. THE DATUM FOR VERTICAL POSITIONS IS THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
7. THE PLANE COORDINATES SHOWN FOR EACH MONUMENT ARE BASED ON THE CALIFORNIA COORDINATE SYSTEM OF 1983 (CCS83).
8. THE METHOD OF SURVEY FOR EACH MONUMENT WAS MULTIPLE OCCUPATIONS USING DIFFERENTIAL GLOBAL POSITIONING SYSTEM (DGPS) TIES TO THE CSRN.
9. ORTHOMETRIC HEIGHTS (ELEVATIONS) WERE DETERMINED BY THE USE OF A HIGH RESOLUTION GEOID MODEL GEOID09, AS PUBLISHED BY THE NATIONAL GEODETIC SURVEY.
10. UNITS FOR POSITIONS SHOWN HERON ARE "U.S. SURVEY FOOT" (ONE FOOT = 1200/3937 METERS).
11. FOR MONUMENTS LOCATED ADJACENT TO A CCS83 STATE PLANE ZONE BOUNDARY LINE, PLANE COORDINATES ARE SHOWN FOR EACH ZONE.
12. THE PREFIX LETTER FOR EACH MONUMENT NAME INDICATES THE SUBDIVISION NAME OF THE CHSTP: B-BAY; C-CAPITOL; D-DESERT; S-SIERRA; T-TONGVA; J-SAN JACINTO.
13. PRIMARY SURVEY CONTROL MONUMENT DESIGNATIONS HAVE THE SUFFIX LETTER "P" INDICATING A MINIMUM OF TWO SEPARATE ONE-HOUR OR LONGER STATIC GPS FIELD SURVEY OCCUPATIONS.
14. EQUIPMENT USED FOR DGPS SURVEYS: TRIMBLE 5700 RECEIVERS, MATCHING ZEPHYR GEODETIC ANTENNAS AND FIXED HEIGHT RODS.
15. POSITIONAL CONSTRAINTS APPLIED TO THE CSRN FOR THE VARIOUS DGPS ADJUSTMENT MODELS NEVER CROSSED MAJOR ACTIVE FAULTS.
16. FIELD SURVEYS WERE PERFORMED FROM SEPTEMBER 9, 2010 TO JANUARY 28, 2011.
17. EACH MONUMENT SHOWN HEREON HAS AN INDIVIDUAL RECORD TITLED "SURVEY CONTROL MONUMENT DATA SHEET" ON FILE IN THE OFFICE OF THE CALIFORNIA HIGH-SPEED RAIL AUTHORITY.
18. EACH MONUMENT SHOWN HEREON HAS AN INDIVIDUAL RECORD TITLED "SURVEY CONTROL MONUMENT TIE SHEET" ON FILE IN THE OFFICE OF THE CALIFORNIA HIGH-SPEED RAIL AUTHORITY.
19. REFER TO "SURVEY CONTROL MONUMENTS SYSTEMWIDE DATA TABLES" FOR POSITIONAL DATA.
20. MONUMENT S224P WILL BE DESTROYED BY NEW ROAD IMPROVEMENTS. MONUMENT S224P2 HAS BEEN SET NEARBY, OUTSIDE OF PLANNED CONSTRUCTION AREA.

**SURVEYOR'S STATEMENT:**

THIS MAP CORRECTLY REPRESENTS A SURVEY MADE BY ME, OR UNDER MY DIRECTION, IN CONFORMANCE WITH THE REQUIREMENTS OF THE PROFESSIONAL LAND SURVEYORS' ACT, AT THE REQUEST OF THE CALIFORNIA HIGH-SPEED RAIL AUTHORITY IN SEPTEMBER, 2010.

*James John Imborski* 03/01/2012  
JAMES JOHN IMBIORSKI L.S. 4430 DATE



**CP 2-3 Record of Survey and Control Monument Data**

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY L. GILL
DRAWN BY V. HUANTE
CHECKED BY J. ELLIOTT
IN CHARGE J. IMBIORSKI
DATE 03/01/2012

**PARSONS  
BRINCKERHOFF**



**CALIFORNIA**  
HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
SURVEY CONTROL**

SURVEY CONTROL MONUMENTS  
SYSTEMWIDE MAP

CONTRACT NO.
DRAWING NO. VS-001
SCALE AS SHOWN
SHEET NO.

04/02/2014 - RFP No.: HSR 13-57

2/24/2012 4:54:58 PM CAHSRP.TBL CHSR\_half\_black.plt T:\13259B\_Calif\_High\_Speed\_Rail\CADD\Standard\_Drawings\Survey\SD-VS-002.dgn huante

ZONE 3 (0403)													CCS83		CCS83		NAVD88											
STATION	NAD 83		NAD 83		ELLIPSOID	GEOID	CONVERGENCE	SCALE	ELEVATION	COMBINATION	ZONE 3	ZONE 3	NAVD88															
	LATITUDE	LONGITUDE			HEIGHT	HEIGHT					FACTOR	FACTOR	FACTOR	NORTHING	EASTING	ELEVATION	DESCRIPTION											
B004P	37-47-28.03656	122-23-21.23148			-95.988	-106.552	-01-09-23.93	0.99992942	1.00000459	0.99993401	2116037.08	6015794.03	10.56	2-1/2	INCH	BRASS	DISK	STAMPED	"B004P	LS4430	2010"							
B010P	37-43-39.89477	122-23-34.93581			-76.437	-106.781	-01-09-32.32	0.99992926	1.00000365	0.99993292	2092988.73	6014227.52	30.34	2-1/2	INCH	BRASS	DISK	STAMPED	"B010P	LS4430	2010"							
B020P	37-36-02.71150	122-23-02.37438			-100.347	-106.961	-01-09-12.39	0.99993260	1.00000480	0.99993740	2046704.43	6015911.98	6.61	2-1/2	INCH	BRASS	DISK	STAMPED	"B020P	LS4430	2010"							
B030P	37-30-04.74660	122-15-06.96148			-89.983	-106.902	-01-04-21.32	0.99993863	1.00000430	0.99994293	2009762.51	6053484.48	16.92	2-1/2	INCH	BRASS	DISK	STAMPED	"B030P	LS4430	2010"							
B040P	37-24-25.37433	122-06-37.52658			-60.061	-107.073	-00-59-09.43	0.99994710	1.00000287	0.99994997	1974705.88	6093937.24	47.01	2-1/2	INCH	BRASS	DISK	STAMPED	"B040P	LS4430	2010"							
B050P	37-20-59.37810	121-55-58.60959			-41.253	-107.208	-00-52-38.27	0.99995355	1.00000197	0.99995552	1953035.70	6145160.13	65.96	2-1/2	INCH	BRASS	DISK	STAMPED	"B050P	LS4430	2010"							
B060P	37-15-10.42320	121-48-00.02353			88.428	-106.489	-00-47-45.26	0.99996673	0.99999577	0.99996250	1917181.68	6183308.34	194.92	2-1/2	INCH	BRASS	DISK	STAMPED	"B060P	LS4430	2010"							
B070P	37-08-44.88213	121-39-31.50038			256.284	-106.281	-00-42-33.93	0.99998459	0.99998774	0.99997233	1877651.15	6223935.07	362.57	2-1/2	INCH	BRASS	DISK	STAMPED	"B070P	LS4430	2010"							
B080P	37-01-43.93503	121-34-05.18184			102.438	-107.057	-00-39-14.14	1.00000803	0.99999510	1.00000313	1834765.12	6249867.26	209.49	2-1/2	INCH	BRASS	DISK	STAMPED	"B080P	LS4430	2010"							
B090P	36-58-03.91222	121-25-07.55163			58.894	-107.537	-00-33-44.99	1.00002191	0.99999718	1.00001909	1812050.27	6293242.83	166.43	2-1/2	INCH	BRASS	DISK	STAMPED	"B090P	LS4430	2010"							
B100P	37-02-45.22131	121-16-34.09708			468.324	-106.060	-00-28-30.64	1.00000436	0.99997760	0.99998196	1840123.58	6335147.06	574.38	2-1/2	INCH	BRASS	DISK	STAMPED	"B100P	LS4430	2010"							
B110P	37-06-03.51225	121-07-24.35863			448.347	-106.886	-00-22-54.07	0.99999309	0.99997855	0.99997164	1859844.98	6379847.64	555.23	2-1/2	INCH	BRASS	DISK	STAMPED	"B110P	LS4430	2010"							
B120P	37-06-00.34798	120-55-57.53063			-6.617	-108.865	-00-15-53.57	0.99999326	1.00000032	0.99999358	1859211.00	6435486.70	102.25	2-1/2	INCH	BRASS	DISK	STAMPED	"B120P	LS4430	2010"							
B130P	37-05-45.34939	120-45-43.56007			-13.462	-108.872	-00-09-37.68	0.99999408	1.00000064	0.99999473	1857509.43	6485221.77	95.41	2-1/2	INCH	BRASS	DISK	STAMPED	"B130P	LS4430	2010"							
B140P	37-05-42.26397	120-36-09.41450			-2.090	-108.055	-00-03-46.17	0.99999425	1.00000010	0.99999435	1857106.73	6531737.24	105.96	2-1/2	INCH	BRASS	DISK	STAMPED	"B140P	LS4430	2010"							
B150P	37-05-40.27229	120-24-02.30461			61.286	-106.992	00-03-38.99	0.99999436	0.99999707	0.99999143	1856904.27	6590646.84	168.28	2-1/2	INCH	BRASS	DISK	STAMPED	"B150P	LS4430	2010"							
B154P	37-06-07.30586	120-19-44.04282			95.467	-106.748	00-06-17.11	0.99999288	0.99999543	0.99998831	1859668.67	6611565.97	202.21	2-1/2	INCH	BRASS	DISK	STAMPED	"B154P	LS4430	2010"							
C010P	37-13-44.34838	120-22-46.05440			90.443	-105.307	00-04-25.68	0.99997042	0.99999567	0.99996609	1905870.75	6596761.50	195.75	2-1/2	INCH	BRASS	DISK	STAMPED	"C010P	LS4430	2010"							
C020P	37-18-52.08478	120-32-28.16420			55.879	-104.730	-00-01-30.71	0.99995803	0.99999733	0.99995536	1936975.13	6549697.75	160.61	2-1/2	INCH	BRASS	DISK	STAMPED	"C020P	LS4430	2010"							
S162P	37-05-00.66353	120-08-49.94698			172.439	-106.510	00-12-57.57	0.99999656	0.99999175	0.99998831	1853076.85	6664580.14	278.95	2-1/2	INCH	BRASS	DISK	STAMPED	"S162P	LS4430	2010"							
S171P	36-58-01.08145	120-00-30.43866			179.946	-106.496	00-18-03.38	1.00002210	0.99999139	1.00001349	1810823.49	6705278.29	286.44	2-1/2	INCH	BRASS	DISK	STAMPED	"S171P	LS4430	2010"							
S182P	36-50-00.81370	119-55-05.93458			194.502	-106.136	00-21-22.05	1.00005633	0.99999070	1.00004703	1762400.74	6731915.56	300.64	2-1/2	INCH	BRASS	DISK	STAMPED	"S182P	LS4430	2010"							

ZONE 4 (0404)													CCS83		CCS83		NAVD88											
STATION	NAD 83		NAD 83		ELLIPSOID	GEOID	CONVERGENCE	SCALE	ELEVATION	COMBINATION	ZONE 4	ZONE 4	NAVD88															
	LATITUDE	LONGITUDE			HEIGHT	HEIGHT					FACTOR	FACTOR	FACTOR	NORTHING	EASTING	ELEVATION	DESCRIPTION											
S182P	36-50-00.81370	119-55-05.93458			194.502	-106.136	-00-32-52.28	0.99994731	0.99999070	0.99993801	2187855.88	6292923.69	300.64	2-1/2	INCH	BRASS	DISK	STAMPED	"S182P	LS4430	2010"							
S193P	36-43-12.41590	119-46-54.71065			180.532	-105.506	-00-27-59.22	0.99994211	0.99999136	0.99993347	2146202.84	6332518.62	286.04	2-1/2	INCH	BRASS	DISK	STAMPED	"S193P	LS4430	2010"							
S204P	36-34-35.14633	119-44-30.21848			169.624	-106.303	-00-26-33.02	0.99994113	0.99999189	0.99993302	2093801.33	6343877.62	275.93	2-1/2	INCH	BRASS	DISK	STAMPED	"S204P	LS4430	2010"							
S214P	36-27-22.93081	119-38-09.89001			162.393	-106.068	-00-22-46.12	0.99994511	0.99999223	0.99993735	2049872.14	6374608.10	268.46	2-1/2	INCH	BRASS	DISK	STAMPED	"S214P	LS4430	2010"							
S224P	36-19-40.85606	119-35-23.23985			138.801	-106.959	-00-21-06.70	0.99995420	0.99999336	0.99994756	2003059.67	6387934.43	245.76	2-1/2	INCH	BRASS	DISK	STAMPED	"S224P	LS4430	2010"							
S224P2	36-19-40.57910	119-35-42.90083			136.848	-107.019	-00-21-18.43	0.99995420	0.99999345	0.99994766	2003041.59	6386325.54	243.87	2-1/2	INCH	BRASS	DISK	STAMPED	"S224P2	LS4430	2010"							
S234P	36-10-53.78621	119-35-08.69642			96.279	-109.066	-00-20-58.02	0.99997063	0.99999539	0.99996603	1949754.96	6388799.36	205.35	2-1/2	INCH	BRASS	DISK	STAMPED	"S234P	LS4430	2010"							
S245P	36-02-12.11815	119-30-39.43538			86.139	-110.334	-00-18-17.38	0.99999326	0.99999588	0.99998914	1896877.75	6410592.04	196.47	2-1/2	INCH	BRASS	DISK	STAMPED	"S245P	LS4430	2010"							
S256P	35-53-28.80672	119-24-49.28885			84.857	-110.557	-00-14-48.49	1.00002232	0.99999594	1.00001826	1843821.62	6439121.77	195.41	2-1/2	INCH</													



71

IN THE COUNTY OF FRESNO, STATE OF CALIFORNIA

# RECORD OF SURVEY

PARSONS BRINCKERHOFF 2010 - 2011  
CONSISTING OF TWO SHEETS

IN SECTIONS 5, 10 AND 24, TOWNSHIP 13 SOUTH, RANGE 19 EAST, SECTIONS 30 AND 32, TOWNSHIP 13 SOUTH, RANGE 20 EAST, SECTIONS 15 AND 24, TOWNSHIP 14 SOUTH, RANGE 20 EAST, SECTIONS 2, 14, 26 AND 36, TOWNSHIP 15 SOUTH, RANGE 20 EAST, SECTIONS 7 AND 30, TOWNSHIP 16 SOUTH, RANGE 21 EAST, SECTIONS 4, 10 AND 18, TOWNSHIP 17 SOUTH, RANGE 21 EAST, ALL MOUNT DIABLO MERIDIAN.

### SURVEYOR'S NOTES:

1. THE CALIFORNIA SPATIAL REFERENCE NETWORK (CSRN) WAS USED TO DETERMINE MONUMENT POSITIONS SHOWN HEREON.
2. POSITIONS PUBLISHED BY THE CALIFORNIA SPATIAL REFERENCE CENTER (CSRC) FOR THE CSRN IS THE BASIS FOR ALL MONUMENT POSITIONS.
3. THE DATUM FOR HORIZONTAL POSITIONS IS THE NORTH AMERICAN DATUM OF 1983 (NAD83), NATIONAL SPATIAL REFERENCE SYSTEM OF 2007 (NSRS2007).
4. THE EPOCH DATE FOR ALL POSITIONS IS 2007.00.
5. THE HORIZONTAL PLANE COORDINATES SHOWN FOR EACH MONUMENT IS BASED ON THE CALIFORNIA COORDINATE SYSTEM OF 1983 (CCS83).
6. THE METHOD OF SURVEY FOR EACH MONUMENT WAS MULTIPLE OCCUPATIONS USING DIFFERENTIAL GLOBAL POSITIONING SYSTEM (DGPS) TIES TO THE CSRN.
7. UNITS FOR POSITIONS SHOWN HEREON ARE "U.S. SURVEY FOOT" (ONE FOOT = 1200/3937 METERS).
8. FOR MONUMENTS LOCATED ADJACENT TO A CCS83 STATE PLANE ZONE BOUNDARY LINE, HORIZONTAL PLANE COORDINATES ARE SHOWN FOR EACH ZONE.
9. THE PREFIX LETTER FOR EACH MONUMENT NAME INDICATES THE SUBDIVISION NAME OF THE CHSTP: S-SIERRA.
10. THE CONTROL CONSISTS OF PRIMARY STATIONS ESTABLISHED AT APPROXIMATE 10-MILE INTERVALS AND SECONDARY STATIONS ESTABLISHED AT APPROXIMATE 2-MILE INTERVALS.
11. PRIMARY SURVEY CONTROL MONUMENT DESIGNATIONS HAVE THE SUFFIX LETTER "P", INDICATING A MINIMUM OF TWO SEPARATE 1-HOUR OR LONGER STATIC GPS FIELD SURVEY OCCUPATIONS.
12. ALL OTHER SECONDARY SURVEY CONTROL STATIONS UTILIZED REDUNDANT 30 MINUTE OR LONGER STATIC GPS FIELD SURVEY OCCUPATIONS.
13. EQUIPMENT USED FOR DGPS SURVEYS WAS TRIMBLE 5700 RECEIVERS, MATCHING ZEPHYR GEODETIC ANTENNAS AND FIXED HEIGHT RODS.
14. EACH MONUMENT SHOWN HEREON HAS AN INDIVIDUAL RECORD TITLED "SURVEY CONTROL MONUMENT DATA SHEET", ON FILE IN THE OFFICE OF THE CALIFORNIA HIGH-SPEED RAIL AUTHORITY.
15. EACH MONUMENT SHOWN HEREON HAS AN INDIVIDUAL RECORD TITLED "SURVEY CONTROL MONUMENT TIE SHEET", ON FILE IN THE OFFICE OF THE CALIFORNIA HIGH-SPEED RAIL AUTHORITY OFFICE.
16. SEE SHEET 2 OF 2 FOR POSITIONAL DATA.

### PURPOSE STATEMENT:

THIS PURPOSE OF THIS SURVEY WAS TO ESTABLISH HORIZONTAL GEODETIC CONTROL TO SUPPORT THE CALIFORNIA HIGH-SPEED TRAIN PROJECT (CHSTP).

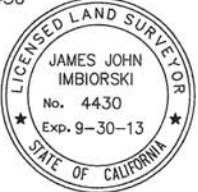
### BASIS OF BEARINGS STATEMENT:

THIS BASIS OF BEARINGS FOR THIS SURVEY IS THE CALIFORNIA COORDINATE SYSTEM, ZONE 5 NAD83 (NSRS2007), EPOCH 2007.00 AS DETERMINED LOCALLY BY A LINE BETWEEN CONTINUOUS GLOBAL POSITIONING SYSTEMS (CGPS) STATIONS 'GR8R' AND 'P572' BEARING NORTH 81°25'33.14" EAST AS DERIVED FROM GEODETIC VALUES PUBLISHED BY THE CALIFORNIA SPATIAL REFERENCE CENTER.

### SURVEYOR'S STATEMENT:

THIS MAP CORRECTLY REPRESENTS A SURVEY MADE BY ME OR UNDER MY DIRECTION IN CONFORMANCE WITH THE REQUIREMENTS OF THE PROFESSIONAL LAND SURVEYORS' ACT AT THE REQUEST OF THE CALIFORNIA HIGH-SPEED RAIL AUTHORITY BETWEEN SEPTEMBER OF 2010 AND DECEMBER OF 2011.

*James John Imborski*  
JAMES JOHN IMBIORSKI, L.S. 4430  
LICENSE EXPIRES 09/30/13



*August 20, 2012*  
DATE

### COUNTY SURVEYOR'S STATEMENT:

THIS MAP HAS BEEN EXAMINED IN ACCORDANCE WITH SECTION 8766 OF THE PROFESSIONAL LAND SURVEYORS' ACT THIS 24 DAY OF September, 2012.



ALAN WEAVER, DIRECTOR  
DEPARTMENT OF PUBLIC WORKS AND PLANNING  
BY: *hcr*  
AUGUSTINE C. RAMIREZ, P.L.S. 8500  
DEPUTY COUNTY SURVEYOR

### RECORDER'S STATEMENT

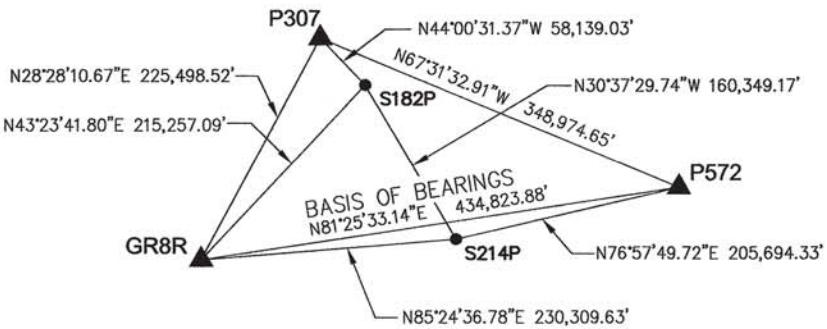
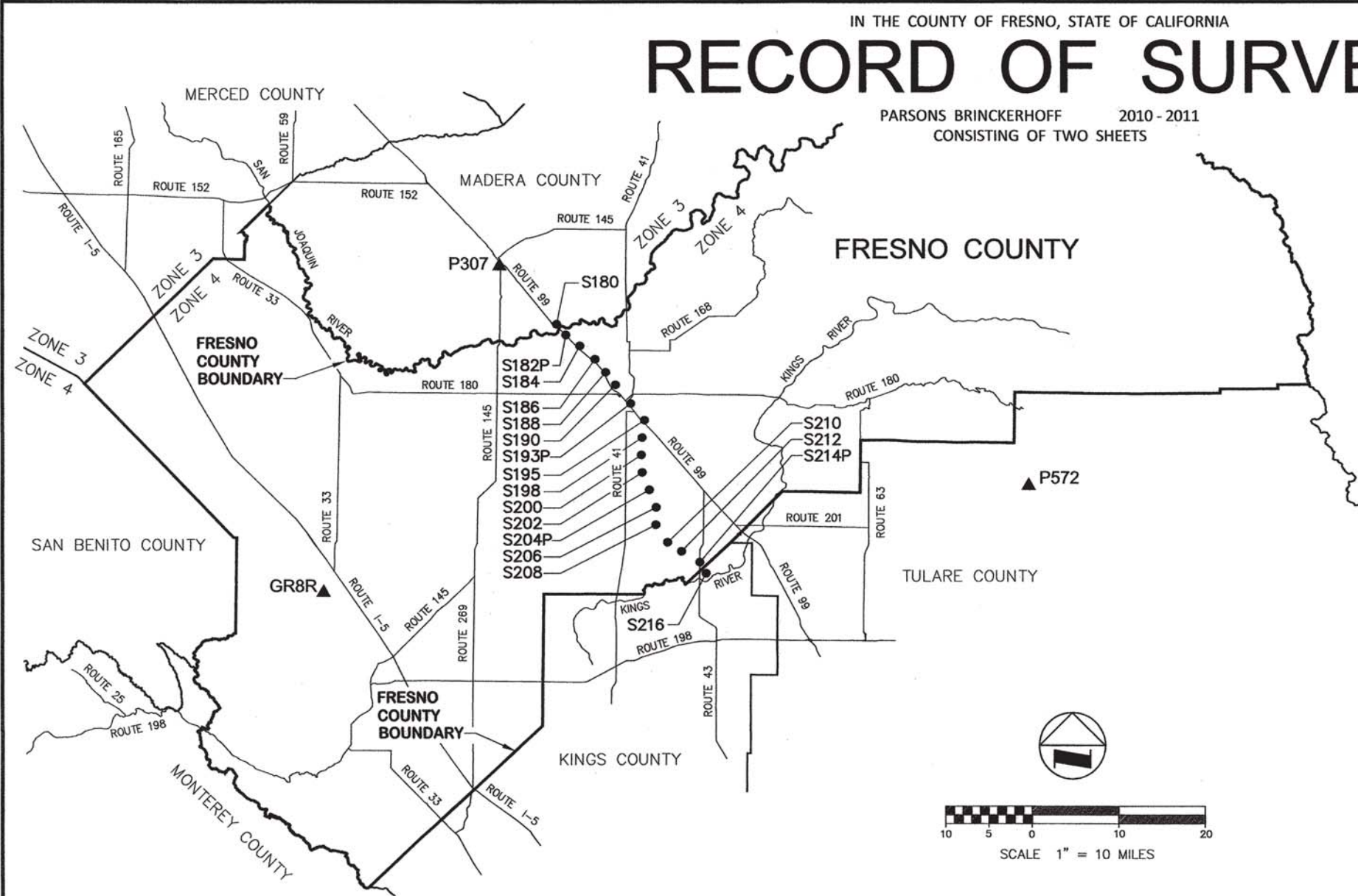
DOCUMENT No. 2012-058491  
FILED THIS 1<sup>st</sup> DAY OF November, 2012, AT 10:32AM.  
IN BOOK 58 OF RECORD OF SURVEYS AT PAGE 71 & 72 AT THE  
REQUEST OF PARSONS BRINCKERHOFF.  
FEE: \$8.00

PAUL DICTOS, C.P.A.  
COUNTY RECORDER  
BY: *Paul Dictos*  
DEPUTY COUNTY RECORDER

04/02/2014 - RFP No.: HSR 13-57



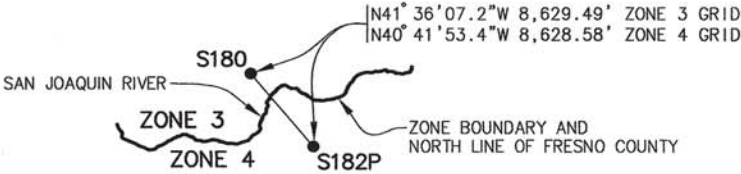
72



NOTE: BEARINGS AND DISTANCES SHOWN IN THIS CONTROL DIAGRAM ARE BASED ON ZONE 4 GRID COORDINATES.

ZONE 4 CONTROL DIAGRAM

SCALE: 1" = 20 MILES



ZONE BOUNDARY CROSSING DETAIL

SCALE: 1" = 2 MILES

SURVEYOR'S NOTES:

- HORIZONTAL DATUM IS NAD83 (NSRS2007) - EPOCH 2007.00
- UNITS FOR HORIZONTAL STATE PLANE COORDINATES IS US SURVEY FEET. CONVERSION FACTOR: 1 FOOT = 1200/3937 METERS.

LEGEND

- XXXX▲ INDICATES CONTINUOUSLY OPERATING GPS REFERENCE STATION AND NAME CSRC POSITIONAL VALUES HELD FIXED FOR CONTROL FOR THIS SURVEY
- CCS83 INDICATES CALIFORNIA STATE PLANE COORDINATE SYSTEM 1983
- ZONE 3 INDICATES ZONE 3 OF THE CALIFORNIA COORDINATE SYSTEM OF 1983
- ZONE 4 INDICATES ZONE 4 OF THE CALIFORNIA COORDINATE SYSTEM OF 1983
- INDICATES SET 2-1/2" DIAMETER BRONZE DISK STAMPED AS SHOWN IN 1" IRON PIPE AND 8" CONCRETE PIER, FLUSH



- XXXXXX INDICATES POINT DESIGNATION (NAME)
- 20xx INDICATES YEAR

POINT	CCS83 ZONE 3 (0403)		LATITUDE	LONGITUDE	COMBINATION FACTOR	MAPPING ANGLE	DESCRIPTION
	NORTHING	EASTING					
S180	1768853.66	6726185.98	36° 51' 04.95968"	119° 56' 15.92989"	1.00004257	+00° 20' 39.20"	SET 2-1/2" BRASS DISK STAMPED "S180 LS 4430 2011"
S182P	1762400.74	6731915.56	36° 50' 00.81370"	119° 55' 05.93458"	1.00004703	+00° 21' 22.05"	SET 2-1/2" BRASS DISK STAMPED "S182P LS 4430 2010"

POINT	CCS83 ZONE 4 (0404)		LATITUDE	LONGITUDE	COMBINATION FACTOR	MAPPING ANGLE	DESCRIPTION
	NORTHING	EASTING					
S180	2194397.68	6287297.21	36° 51' 04.95968"	119° 56' 15.92989"	0.99993960	-00° 33' 34.04"	SET 2-1/2" BRASS DISK STAMPED "S180 LS 4430 2011"
S182P	2187855.88	6292923.69	36° 50' 00.81370"	119° 55' 05.93458"	0.99993801	-00° 32' 52.28"	SET 2-1/2" BRASS DISK STAMPED "S182P LS 4430 2010"
S184	2181134.27	6301461.66	36° 48' 55.14614"	119° 53' 20.14568"	0.99993663	-00° 31' 49.17"	SET 2-1/2" BRASS DISK STAMPED "S184 LS 4430 2011"
S186	2173110.51	6310744.91	36° 47' 36.64259"	119° 51' 25.10077"	0.99993598	-00° 30' 40.53"	SET 2-1/2" BRASS DISK STAMPED "S186 LS 4430 2011"
S188	2165149.42	6317198.08	36° 46' 18.48573"	119° 50' 04.91204"	0.99993487	-00° 29' 52.69"	SET 2-1/2" BRASS DISK STAMPED "S188 LS 4430 2011"
S190	2157547.30	6323261.08	36° 45' 03.83038"	119° 48' 49.59979"	0.99993437	-00° 29' 07.76"	SET 2-1/2" BRASS DISK STAMPED "S190 LS 4430 2011"
S193P	2146202.84	6332518.62	36° 43' 12.41590"	119° 46' 54.71065"	0.99993347	-00° 27' 59.22"	SET 2-1/2" BRASS DISK STAMPED "S193P LS 4430 2010"
S195	2136079.76	6340915.81	36° 41' 32.98066"	119° 45' 10.59429"	0.99993254	-00° 26' 57.11"	SET 2-1/2" BRASS DISK STAMPED "S195 LS 4430 2011"
S198	2125483.45	6339418.46	36° 39' 48.08548"	119° 45' 27.95290"	0.99993222	-00° 27' 07.46"	SET 2-1/2" BRASS DISK STAMPED "S198 LS 4430 2011"
S200	2114907.66	6338933.28	36° 38' 03.47121"	119° 45' 32.88179"	0.99993224	-00° 27' 10.40"	SET 2-1/2" BRASS DISK STAMPED "S200 LS 4430 2011"
S202	2104318.67	6339455.01	36° 36' 18.80457"	119° 45' 25.45646"	0.99993259	-00° 27' 05.97"	SET 2-1/2" BRASS DISK STAMPED "S202 LS 4430 2011"
S204P	2093801.33	6343877.62	36° 34' 35.14633"	119° 44' 30.21848"	0.99993302	-00° 26' 33.02"	SET 2-1/2" BRASS DISK STAMPED "S204P LS 4430 2010"
S206	2083192.34	6347990.60	36° 32' 50.55107"	119° 43' 38.80778"	0.99993366	-00° 26' 02.35"	SET 2-1/2" BRASS DISK STAMPED "S206 LS 4430 2011"
S208	2072591.33	6347825.43	36° 31' 05.71078"	119° 43' 39.84742"	0.99993528	-00° 26' 02.97"	SET 2-1/2" BRASS DISK STAMPED "S208 LS 4430 2011"
S210	2061975.79	6354934.37	36° 29' 21.26248"	119° 42' 11.80407"	0.99993617	-00° 25' 10.44"	SET 2-1/2" BRASS DISK STAMPED "S210 LS 4430 2011"
S212	2056448.07	6363427.40	36° 28' 27.20345"	119° 40' 27.32002"	0.99993691	-00° 24' 08.11"	SET 2-1/2" BRASS DISK STAMPED "S212 LS 4430 2011"
S214P	2049872.14	6374608.10	36° 27' 22.93081"	119° 38' 09.89001"	0.99993735	-00° 22' 46.12"	SET 2-1/2" BRASS DISK STAMPED "S214P LS 4430 2010"
S216	2043175.55	6378386.12	36° 26' 16.95543"	119° 37' 23.11055"	0.99993830	-00° 22' 18.21"	SET 2-1/2" BRASS DISK STAMPED "S216 LS 4430 2011"
GR8R	2031442.489	6145037.029	36° 23' 56.440565"	120° 24' 56.579037"	0.99991613	-00° 50' 40.55"	CSRN CONTINUOUSLY OPERATING REFERENCE STATION
P307	2229671.454	6252530.565	36° 56' 50.158290"	120° 03' 28.457972"	0.99994859	-00° 37' 52.08"	CSRN CONTINUOUSLY OPERATING REFERENCE STATION
P572	2096269.882	6575001.228	36° 35' 07.842472"	118° 57' 16.493091"	0.99975776	+00° 01' 37.55"	CSRN CONTINUOUSLY OPERATING REFERENCE STATION



IN THE COUNTY OF KINGS  
RECORD OF SURVEY

SHEET 1 OF 2

PARSONS BRINCKERHOFF 2010 - 2011

IN SECTIONS 19 AND 32, TOWNSHIP 17 SOUTH, SECTIONS 3, 22, 33 AND 34, TOWNSHIP 18 SOUTH,  
SECTIONS 4, 21 AND 28, TOWNSHIP 19 SOUTH, SECTIONS 4, 16, 21 AND 28, TOWNSHIP 20 SOUTH,  
SECTIONS 10 AND 13, TOWNSHIP 21 SOUTH, ALL IN RANGE 22 EAST, MOUNT DIABLO MERIDIAN.

SURVEYOR'S NOTES:

1. THE CALIFORNIA SPATIAL REFERENCE NETWORK (CSRN) WAS USED TO DETERMINE MONUMENT POSITIONS SHOWN HEREON.
2. POSITIONS PUBLISHED BY THE CALIFORNIA SPATIAL REFERENCE CENTER (CSRC) FOR THE CSRN IS THE BASIS FOR ALL MONUMENT POSITIONS.
3. THE DATUM FOR HORIZONTAL POSITIONS IS THE NORTH AMERICAN DATUM OF 1983 (NAD83), NATIONAL SPATIAL REFERENCE SYSTEM OF 2007 (NSRS2007).
4. THE EPOCH DATE FOR ALL POSITIONS IS 2007.00.
5. THE HORIZONTAL PLANE COORDINATES SHOWN FOR EACH MONUMENT IS BASED ON THE CALIFORNIA COORDINATE SYSTEM OF 1983 (CCS83).
6. THE METHOD OF SURVEY FOR EACH MONUMENT WAS MULTIPLE OCCUPATIONS USING DIFFERENTIAL GLOBAL POSITIONING SYSTEM (DGPS) TIES TO THE CSRN.
7. UNITS FOR POSITIONS SHOWN HEREON ARE "U.S. SURVEY FOOT" (ONE FOOT = 1200/3937 METERS).
8. FOR MONUMENTS LOCATED ADJACENT TO A CCS83 STATE PLANE ZONE BOUNDARY LINE, HORIZONTAL PLANE COORDINATES ARE SHOWN FOR EACH ZONE.
9. THE PREFIX LETTER FOR EACH MONUMENT NAME INDICATES THE SUBDIVISION NAME OF THE CHSTP: "S" INDICATES SIERRA SUBDIVISION.
10. THE CONTROL CONSISTS OF PRIMARY STATIONS ESTABLISHED AT APPROXIMATE 10-MILE INTERVALS AND SECONDARY STATIONS ESTABLISHED AT APPROXIMATE 2-MILE INTERVALS.
11. PRIMARY SURVEY CONTROL MONUMENT DESIGNATIONS HAVE THE SUFFIX LETTER "P", INDICATING A MINIMUM OF TWO SEPARATE 1-HOUR OR LONGER STATIC GPS FIELD SURVEY OCCUPATIONS.
12. ALL OTHER SECONDARY SURVEY CONTROL STATIONS UTILIZED REDUNDANT 30 MINUTE OR LONGER STATIC GPS FIELD SURVEY OCCUPATIONS.
13. EQUIPMENT USED FOR DGPS SURVEYS WAS TRIMBLE 5700 RECEIVERS, MATCHING ZEPHYR GEODETIC ANTENNAS AND FIXED HEIGHT RODS.
14. EACH MONUMENT SHOWN HEREON HAS AN INDIVIDUAL RECORD TITLED "SURVEY CONTROL MONUMENT DATA SHEET", ON FILE IN THE OFFICE OF THE CALIFORNIA HIGH-SPEED RAIL AUTHORITY.
15. EACH MONUMENT SHOWN HEREON HAS AN INDIVIDUAL RECORD TITLED "SURVEY CONTROL MONUMENT TIE SHEET", ON FILE IN THE OFFICE OF THE CALIFORNIA HIGH-SPEED RAIL AUTHORITY.
16. SEE SHEET 2 OF 2 FOR POSITIONAL DATA.

PURPOSE STATEMENT:

THIS PURPOSE OF THIS SURVEY WAS TO ESTABLISH HORIZONTAL GEODETIC CONTROL TO SUPPORT THE CALIFORNIA HIGH-SPEED TRAIN PROJECT (CHSTP).

BASIS OF BEARINGS STATEMENT:

THIS BASIS OF BEARINGS FOR THIS SURVEY IS THE CALIFORNIA COORDINATE SYSTEM, ZONE 4 NAD83 (NSRS2007), EPOCH 2007.00 AS DETERMINED LOCALLY BY A LINE BETWEEN CONTINUOUS GLOBAL POSITIONING SYSTEMS (CGPS) STATIONS 'P547' AND 'P572' BEARING NORTH 50°10'17.26" EAST AS DERIVED FROM GEODETIC VALUES PUBLISHED BY THE CALIFORNIA SPATIAL REFERENCE CENTER.

SURVEYOR'S STATEMENT:

THIS MAP CORRECTLY REPRESENTS A SURVEY MADE BY ME OR UNDER MY DIRECTION IN CONFORMANCE WITH THE REQUIREMENTS OF THE PROFESSIONAL LAND SURVEYORS' ACT AT THE REQUEST OF THE CALIFORNIA HIGH-SPEED RAIL AUTHORITY BETWEEN SEPTEMBER OF 2010 AND DECEMBER OF 2011.

*James John Imborski*  
JAMES JOHN IMBIORSKI, L.S. 4430  
LICENSE EXPIRES 09/30/13



*March 13, 2012*  
DATE

COUNTY SURVEYOR'S STATEMENT:

THIS MAP HAS BEEN EXAMINED IN ACCORDANCE WITH SECTION 8766 OF THE PROFESSIONAL LAND SURVEYORS' ACT THIS 23<sup>rd</sup> DAY OF March, 2012.

*Harry W. Verheul*  
HARRY W. VERHEUL, R.C.E. 16401 EXPIRES 06/30/2013  
COUNTY SURVEYOR



RECORDER'S STATEMENT

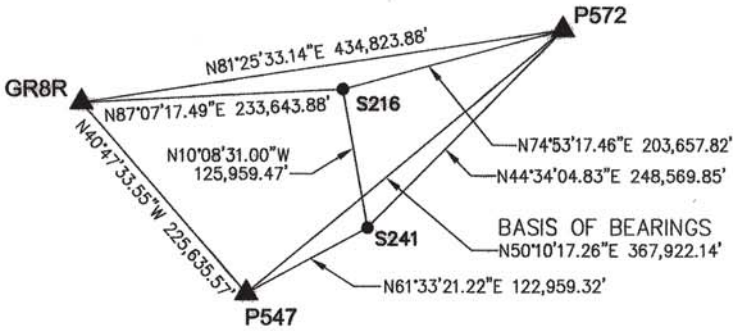
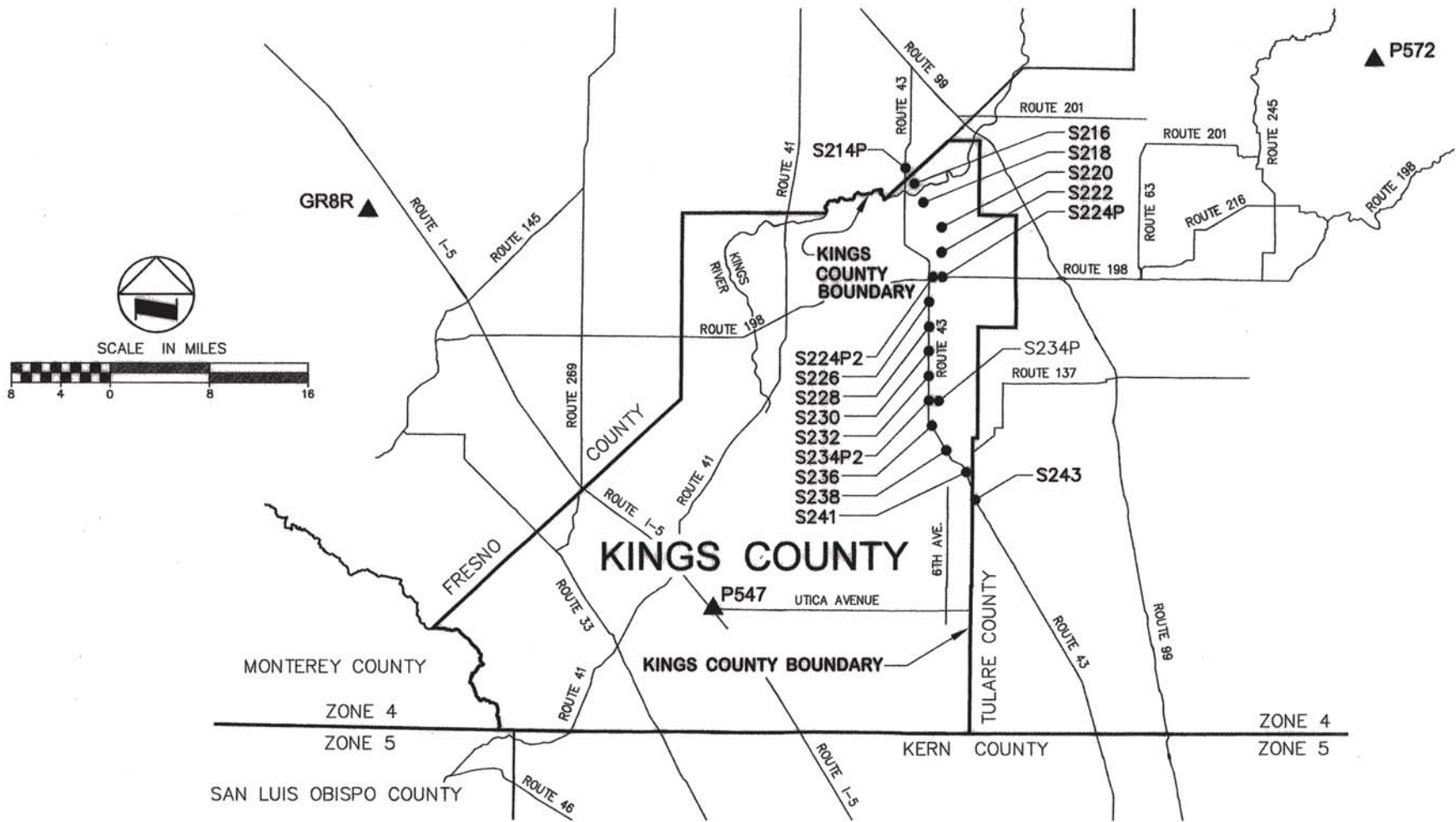
FILED THIS 26<sup>th</sup> DAY OF March, 2012, AT 11:51 A.M. IN  
VOLUME 24 OF Licensed Surveyors Plat AT PAGE 8, AT THE REQUEST  
OF PARSONS BRINCKERHOFF. FEE: \$10<sup>00</sup>

*Michael R. Hawkins*  
KEN BAIRD, COUNTY RECORDER BY: DEPUTY Doc # 12051916



IN THE COUNTY OF KINGS  
**RECORD OF SURVEY**

PARSONS BRINCKERHOFF 2010 - 2011



NOTE: BEARINGS AND DISTANCES SHOWN IN THIS CONTROL DIAGRAM ARE BASED ON ZONE 4 GRID COORDINATES.

**ZONE 4 CONTROL DIAGRAM**

SCALE: 1" = 20 MILES

**SURVEYOR'S NOTES:**

- 1. HORIZONTAL DATUM IS NAD83 (NSRS2007) - EPOCH 2007.00
- 2. UNITS FOR HORIZONTAL STATE PLANE COORDINATES IS US SURVEY FEET. CONVERSION FACTOR: 1 FOOT = 1200/3937 METERS.

**LEGEND**

- XXXX▲ INDICATES CONTINUOUSLY OPERATING GPS REFERENCE STATION AND NAME CSRC POSITIONAL VALUES HELD FIXED FOR CONTROL FOR THIS SURVEY
- CCS83 INDICATES CALIFORNIA STATE PLANE COORDINATE SYSTEM 1983
- ZONE 4 INDICATES BOUNDARY LINE BETWEEN ZONES OF THE CALIFORNIA COORDINATE SYSTEM OF 1983
- ZONE 5

- INDICATES SET 2-1/2" DIAMETER BRONZE DISK STAMPED AS SHOWN IN 1" IRON PIPE AND 8" CONCRETE PIER

XXXXX INDICATES POINT DESIGNATION (NAME)

20xx INDICATES YEAR



POINT	CCS83 ZONE 4 (0404)		LATITUDE	LONGITUDE	COMBINATION FACTOR	MAPPING ANGLE	DESCRIPTION
	NORTHING	EASTING					
S214P	2049872.14	6374608.10	36° 27' 22.93081"	119° 38' 09.89001"	0.99993735	-00° 22' 46.12"	SET 2-1/2" BRASS DISK STAMPED "S214P LS 4430 2010"
S216	2043175.55	6378386.12	36° 26' 16.95543"	119° 37' 23.11056"	0.99993830	-00° 22' 18.21"	SET 2-1/2" BRASS DISK STAMPED "S216 LS 4430 2011"
S218	2035024.53	6382217.06	36° 24' 56.59568"	119° 36' 35.59274"	0.99993989	-00° 21' 49.86"	SET 2-1/2" BRASS DISK STAMPED "S218 LS 4430 2011"
S220	2024391.61	6390098.99	36° 23' 11.93351"	119° 34' 58.36899"	0.99994188	-00° 20' 51.86"	SET 2-1/2" BRASS DISK STAMPED "S220 LS 4430 2011"
S222	2013683.23	6390082.85	36° 21' 26.03983"	119° 34' 57.77173"	0.99994446	-00° 20' 51.50"	SET 2-1/2" BRASS DISK STAMPED "S222 LS 4430 2011"
S224P	2003059.67	6387934.43	36° 19' 40.85606"	119° 35' 23.23985"	0.99994756	-00° 21' 06.70"	SET 2-1/2" BRASS DISK STAMPED "S224P LS 4430 2010"
S224P2	2003041.59	6386325.54	36° 19' 40.57910"	119° 35' 42.90083"	0.99994766	-00° 21' 18.43"	SET 2-1/2" BRASS DISK STAMPED "S224P2 LS 4430 2010"
S226	1992403.02	6384682.13	36° 17' 55.27514"	119° 36' 02.17186"	0.99995085	-00° 21' 29.92"	SET 2-1/2" BRASS DISK STAMPED "S226 LS 4430 2011"
S228	1981683.89	6384627.51	36° 16' 09.27212"	119° 36' 02.02020"	0.99995440	-00° 21' 29.83"	SET 2-1/2" BRASS DISK STAMPED "S228 LS 4430 2011"
S230	1971263.49	6384548.24	36° 14' 26.22155"	119° 36' 02.19242"	0.99995804	-00° 21' 29.94"	SET 2-1/2" BRASS DISK STAMPED "S230 LS 4430 2011"
S232	1960507.68	6384544.74	36° 12' 39.85862"	119° 36' 01.41436"	0.99996199	-00° 21' 29.47"	SET 2-1/2" BRASS DISK STAMPED "S232 LS 4430 2011"
S234P	1949754.96	6388799.36	36° 10' 53.78621"	119° 35' 08.69642"	0.99996603	-00° 20' 58.02"	SET 2-1/2" BRASS DISK STAMPED "S234P LS 4430 2010"
S234P2	1949977.11	6384545.55	36° 10' 55.72328"	119° 36' 00.60149"	0.99996628	-00° 21' 28.99"	SET 2-1/2" BRASS DISK STAMPED "S234P2 LS 4430 2011"
S236	1939165.64	6385845.45	36° 09' 08.88994"	119° 35' 43.92735"	0.99997019	-00° 21' 19.04"	SET 2-1/2" BRASS DISK STAMPED "S236 LS 4430 2011"
S238	1928527.37	6392015.21	36° 07' 24.06081"	119° 34' 27.92043"	0.99997489	-00° 20' 33.69"	SET 2-1/2" BRASS DISK STAMPED "S238 LS 4430 2011"
S241	1919184.25	6400566.00	36° 05' 52.16049"	119° 32' 43.04869"	0.99997874	-00° 19' 31.13"	SET 2-1/2" BRASS DISK STAMPED "S241 LS 4430 2011"
S243	1907345.23	6404458.53	36° 03' 55.30113"	119° 31' 54.81931"	0.99998421	-00° 19' 02.36"	SET 2-1/2" BRASS DISK STAMPED "S243 LS 4430 2011"
GR8R	2031442.489	6145037.029	36° 23' 56.440565"	120° 24' 56.579037"	0.99991613	-00° 50' 40.55"	CSRN CONTINUOUSLY OPERATING REFERENCE STATION
P547	1860618.578	6292450.054	35° 56' 04.918657"	119° 54' 33.646373"	1.00000569	-00° 32' 33.02"	CSRN CONTINUOUSLY OPERATING REFERENCE STATION
P572	2096269.882	6575001.228	36° 35' 07.842472"	118° 57' 16.493091"	0.99975776	+00° 01' 37.55"	CSRN CONTINUOUSLY OPERATING REFERENCE STATION



IN THE COUNTY OF TULARE

# RECORD OF SURVEY

SHEET 1 OF 2

PARSONS BRINCKERHOFF 2010 - 2011

IN SECTION 31, TOWNSHIP 21 SOUTH, RANGE 23 EAST, SECTIONS 5, 16 AND 34, TOWNSHIP 22 SOUTH, RANGE 23 EAST,  
SECTION 1, TOWNSHIP 23 SOUTH, RANGE 23 EAST, SECTIONS 19 AND 30, TOWNSHIP 23 SOUTH, RANGE 24 EAST,  
SECTIONS 4, 22, AND 27, TOWNSHIP 24 SOUTH, RANGE 24 EAST, ALL MOUNT DIABLO MERIDIAN.

**SURVEYOR'S NOTES:**

1. THE CALIFORNIA SPATIAL REFERENCE NETWORK (CSRN) WAS USED TO DETERMINE MONUMENT POSITIONS SHOWN HEREON.
2. POSITIONS PUBLISHED BY THE CALIFORNIA SPATIAL REFERENCE CENTER (CSRC) FOR THE CSRN IS THE BASIS FOR ALL MONUMENT POSITIONS.
3. THE DATUM FOR HORIZONTAL POSITIONS IS THE NORTH AMERICAN DATUM OF 1983 (NAD83), NATIONAL SPATIAL REFERENCE SYSTEM OF 2007 (NSRS2007).
4. THE EPOCH DATE FOR ALL POSITIONS IS 2007.00.
5. THE HORIZONTAL PLANE COORDINATES SHOWN FOR EACH MONUMENT IS BASED ON THE CALIFORNIA COORDINATE SYSTEM OF 1983 (CCS83).
6. THE METHOD OF SURVEY FOR EACH MONUMENT WAS MULTIPLE OCCUPATIONS USING DIFFERENTIAL GLOBAL POSITIONING SYSTEM (DGPS) TIES TO THE CSRN.
7. UNITS FOR POSITIONS SHOWN HEREON ARE "U.S. SURVEY FOOT" (ONE FOOT = 1200/3937 METERS).
8. FOR MONUMENTS LOCATED ADJACENT TO A CCS83 STATE PLANE ZONE BOUNDARY LINE, HORIZONTAL PLANE COORDINATES ARE SHOWN FOR EACH ZONE.
9. THE PREFIX LETTER FOR EACH MONUMENT NAME INDICATES THE SUBDIVISION NAME OF THE CHSTP: S - INDICATES SIERRA SUBDIVISION.
10. THE CONTROL CONSISTS OF PRIMARY STATIONS ESTABLISHED AT APPROXIMATE 10-MILE INTERVALS AND SECONDARY STATIONS ESTABLISHED AT APPROXIMATE 2-MILE INTERVALS.
11. PRIMARY SURVEY CONTROL MONUMENT DESIGNATIONS HAVE THE SUFFIX LETTER "P", INDICATING A MINIMUM OF TWO SEPARATE 1-HOUR OR LONGER STATIC GPS FIELD SURVEY OCCUPATIONS.
12. ALL OTHER SECONDARY SURVEY CONTROL STATIONS UTILIZED REDUNDANT 30 MINUTE OR LONGER STATIC GPS FIELD SURVEY OCCUPATIONS.
13. EQUIPMENT USED FOR DGPS SURVEYS WAS TRIMBLE 5700 RECEIVERS, MATCHING ZEPHYR GEODETIC ANTENNAS AND FIXED HEIGHT RODS.
14. EACH MONUMENT SHOWN HEREON HAS AN INDIVIDUAL RECORD TITLED "SURVEY CONTROL MONUMENT DATA SHEET", ON FILE IN THE OFFICE OF THE CALIFORNIA HIGH-SPEED RAIL AUTHORITY.
15. EACH MONUMENT SHOWN HEREON HAS AN INDIVIDUAL RECORD TITLED "SURVEY CONTROL MONUMENT TIE SHEET", ON FILE IN THE OFFICE OF THE CALIFORNIA HIGH-SPEED RAIL AUTHORITY.
16. SEE SHEET 2 OF 2 FOR POSITIONAL DATA.

**PURPOSE STATEMENT:**

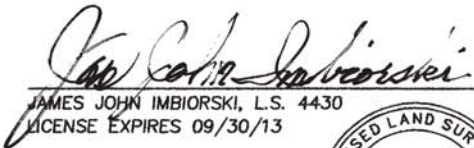
THIS PURPOSE OF THIS SURVEY WAS TO ESTABLISH HORIZONTAL GEODETIC CONTROL TO SUPPORT THE CALIFORNIA HIGH-SPEED TRAIN PROJECT (CHSTP).

**BASIS OF BEARINGS STATEMENT:**

THIS BASIS OF BEARINGS FOR THIS SURVEY IS THE CALIFORNIA COORDINATE SYSTEM, ZONE 4 NAD83 (NSRS2007), EPOCH 2007.00 AS DETERMINED LOCALLY BY A LINE BETWEEN CONTINUOUS GLOBAL POSITIONING SYSTEMS (CGPS) STATIONS "P547" AND "P572" BEARING NORTH 50°10'17.26" EAST AS DERIVED FROM GEODETIC VALUES PUBLISHED BY THE CALIFORNIA SPATIAL REFERENCE CENTER.

**SURVEYOR'S STATEMENT:**

THIS MAP CORRECTLY REPRESENTS A SURVEY MADE BY ME OR UNDER MY DIRECTION IN CONFORMANCE WITH THE REQUIREMENTS OF THE PROFESSIONAL LAND SURVEYORS' ACT AT THE REQUEST OF THE CALIFORNIA HIGH-SPEED RAIL AUTHORITY BETWEEN SEPTEMBER OF 2010 AND DECEMBER OF 2011.


  
JAMES JOHN IMBIORSKI, L.S. 4430  
LICENSE EXPIRES 09/30/13

March 29 2012  
DATE



**COUNTY SURVEYOR'S STATEMENT:**

THIS MAP HAS BEEN EXAMINED IN ACCORDANCE WITH SECTION 8766 OF THE PROFESSIONAL LAND SURVEYORS' ACT THIS 5<sup>th</sup> DAY OF April, 2012.

  
BRITT FUSSEL, R.C.E. 31677  
COUNTY SURVEYOR



**RECORDER'S STATEMENT**

DOCUMENT NO. 2012-0022228 FEE: \$1000  
FILED THIS 22<sup>nd</sup> DAY OF APRIL, 2012, AT 8:01 A.M. IN  
BOOK 31 OF LICENSED SURVEYS AT PAGE 34 AT THE REQUEST  
OF PARSONS BRINCKERHOFF.

  
ROLAND P. HILL, COUNTY RECORDER

04/02/2014 - RFP No.: HSR 13-57

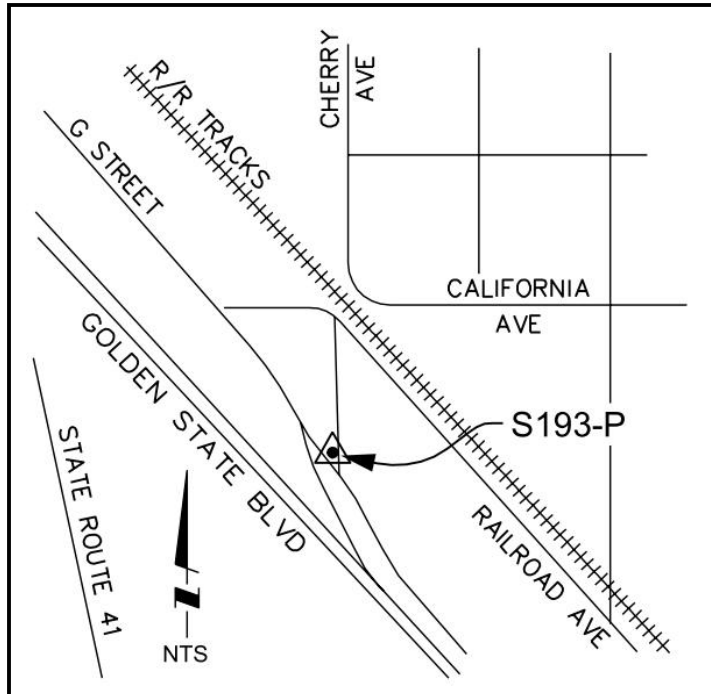
4/11/12







SURVEY CONTROL MONUMENT DATA SHEET Sheet of



Designation: **S193P**

Date: 9/14/2010

Monument Description:  
2 1/2" Bronze Disk in 1" Iron  
Pipe in 8" Concrete Pier



**To Reach:**

In the City of Fresno, County of Fresno, 450 southerly along Cherry Avenue from the intersection of California Avenue, 7.8 feet westerly of the west curb face of Cherry Avenue, 11.8 feet northeasterly of the northeasterly curb face of G Street.

**HORIZONTAL**

DATUM: NAD 83 (NSRS2007)

EPOCH: 2007.00

**Geodetic Coordinates**

	Degrees	Minutes	Seconds	
Latitude :	36°	43'	12.41590"	N
Longitude :	119°	46'	54.71065"	W

**California Coordinate System (CCS83) US Survey Feet**

Zone 4	Northing :	2146202.84	Comb. Factor: 0.99993347
	Easting :	6332518.62	

**VERTICAL**

	US Survey Feet	Method
NAVD88:	286.04	GPS

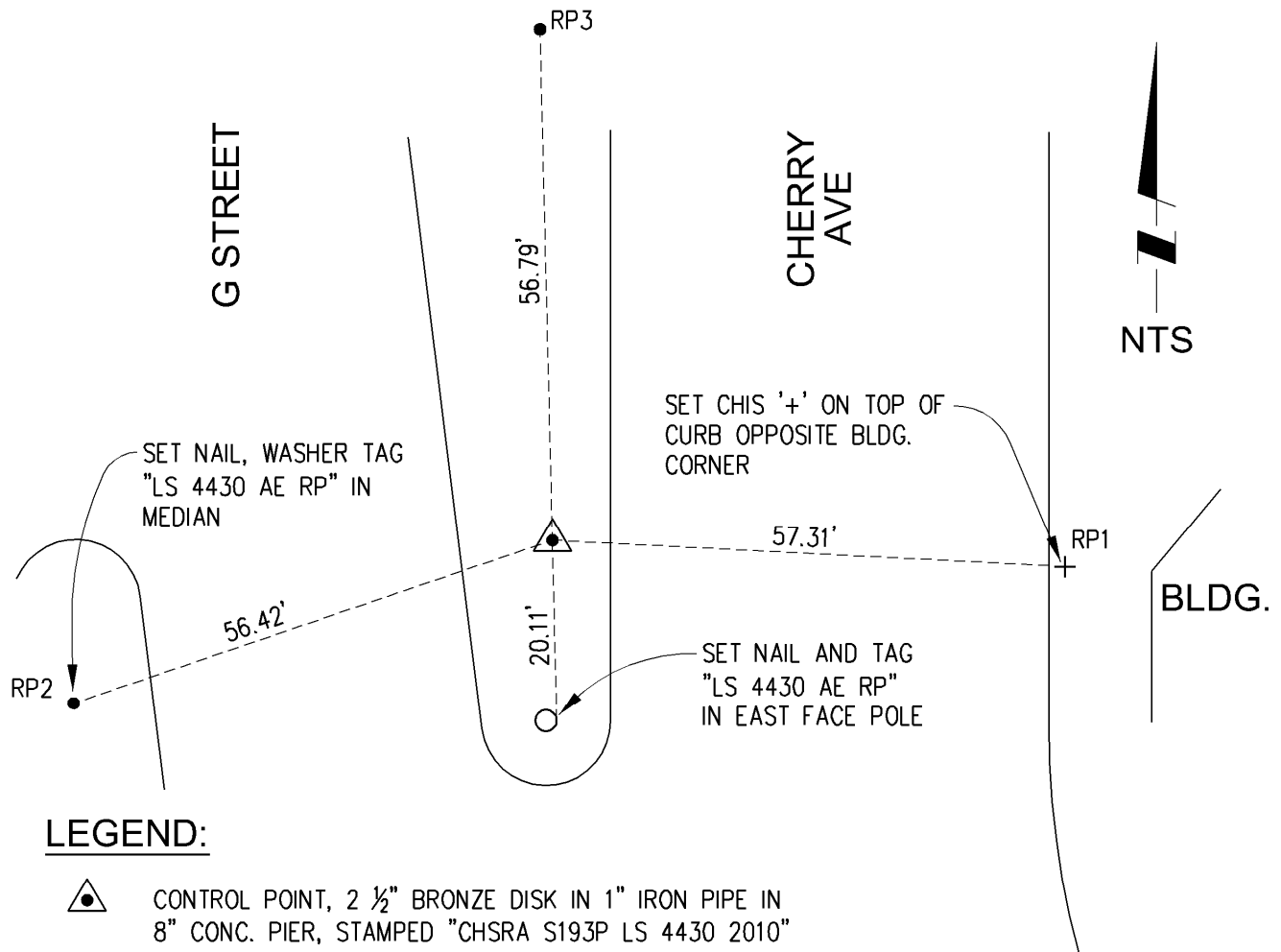
The orthometric height was determined by two, one-hour GPS observations, using GEOID09 and CGPS ellipsoid heights. Equipment used included fixed height 2.000 meter rods, Trimble 5700 receivers and matching Zephyr Geodetic antennas.



# SURVEY CONTROL MONUMENT TIE SHEET

Sheet of

PARTY CHIEF: W. Hoff	M. Zwissler	DATE OF SURVEY: 9/10/2010	DESIGNATION: <b>S193P</b>
-------------------------	-------------	------------------------------	------------------------------



## LEGEND:

- CONTROL POINT, 2 1/2" BRONZE DISK IN 1" IRON PIPE IN 8" CONC. PIER, STAMPED "CHSRA S193P LS 4430 2010"
- REFERENCE POINT, SET 5/8" REBAR WITH PLASTIC PLUG, STAMPED "AE RP LS 4430" UNLESS OTHERWISE NOTED.

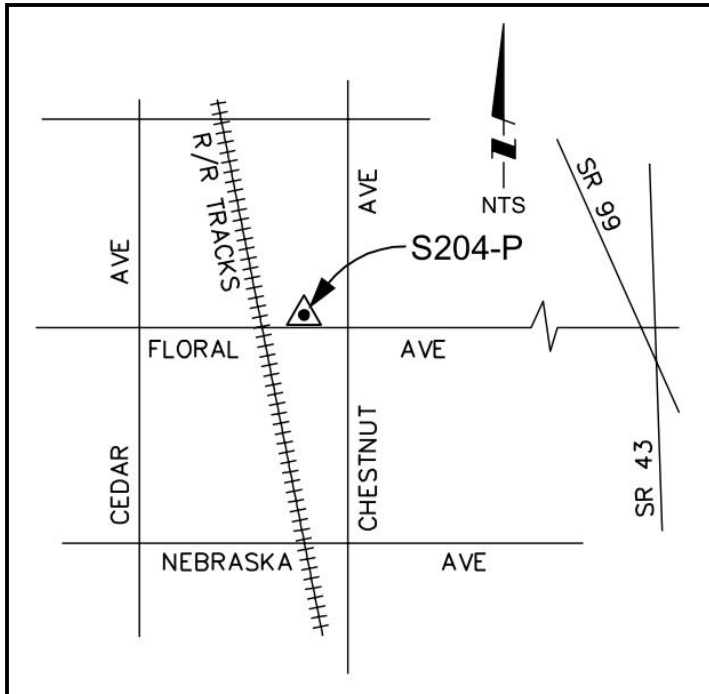
Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S193-P			4.12			2-1/2" BRONZE DISK
	3.90					
RP3			4.29			5/8" REBAR LS 4430
	4.45					
RP2			4.75			NAIL & TAG LS 4430
	5.52					
RP1			5.31			CHIS. "X" IN TC
	4.60					
S193-P						2-1/2" BRONZE DISK



04/02/2014 - RFP No.: HSR 13-57



SURVEY CONTROL MONUMENT DATA SHEET Sheet of



Designation: **S204P**

Date: 9/14/2010

Monument Description:  
2 1/2" Bronze Disk in 1" Iron  
Pipe in 8" Concrete Pier



**To Reach:**

In the County of Fresno, north side of Floral Avenue, 0.28 mile west of Chestnut Avenue, 700 feet east of the centerline of railroad tracks.

**HORIZONTAL**

DATUM: NAD 83 (NSRS2007)

EPOCH: 2007.00

**Geodetic Coordinates**

	Degrees	Minutes	Seconds	
Latitude :	36°	34'	35.14633"	N
Longitude :	119°	44'	30.21848"	W

**California Coordinate System (CCS83) US Survey Feet**

Zone 4	Northing :	2093801.33	
	Easting :	6343877.62	Comb. Factor: 0.99993302

**VERTICAL**

	US Survey Feet	Method
NAVD88:	275.93	GPS

The orthometric height was determined by two, one-hour GPS observations, using GEOID09 and CGPS ellipsoid heights. Equipment used included fixed height 2.000 meter rods, Trimble 5700 receivers and matching Zephyr Geodetic antennas.

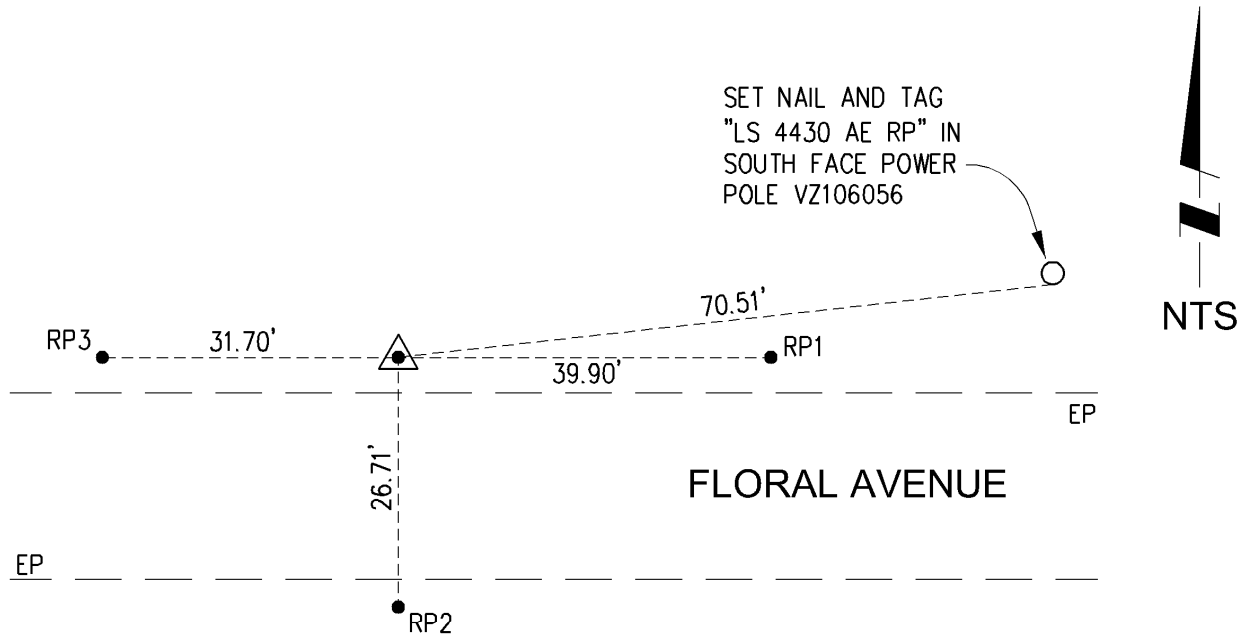


04/02/2014 - RFP No.: HSR 13-57

# SURVEY CONTROL MONUMENT TIE SHEET

Sheet of

PARTY CHIEF: W. Hoff	M. Zwissler	DATE OF SURVEY: 9/09/2010	DESIGNATION: <b>S204P</b>
-------------------------	-------------	------------------------------	------------------------------



## LEGEND:

- CONTROL POINT, 2 1/2" BRONZE DISK IN 1" IRON PIPE IN 8" CONC. PIER, STAMPED "CHSRA S204P LS 4430 2010"
- REFERENCE POINT, SET 5/8" REBAR WITH PLASTIC PLUG, STAMPED "AE RP LS 4430" UNLESS OTHERWISE NOTED.

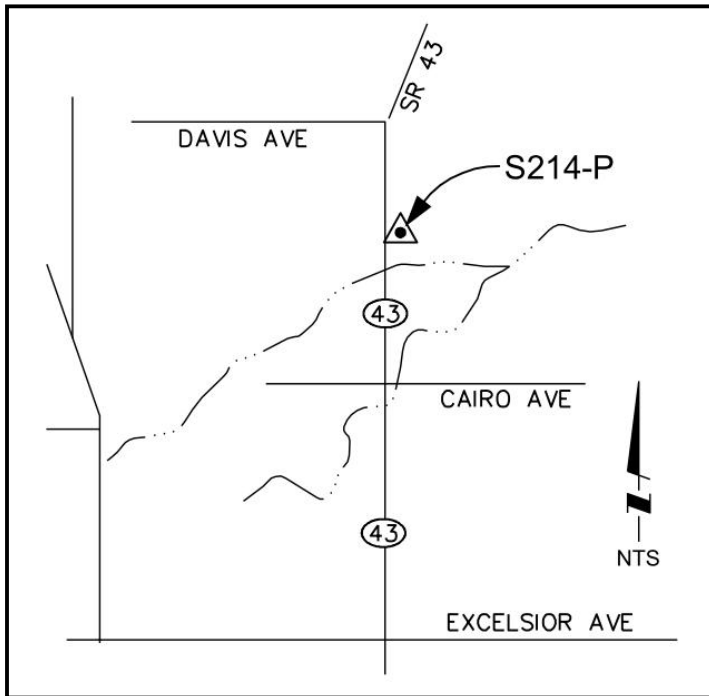
Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S204-P			4.44			2-1/2" BRONZE DISK
	4.57					
RP3			5.12			5/8" REBAR LS 4430
	5.51					
RP2			5.65			5/8" REBAR LS 4430
	5.22					
RP1			4.84			5/8" REBAR LS 4430
	4.75					
S204-P						2-1/2" BRONZE DISK



04/02/2014 - RFP No.: HSR 13-57



SURVEY CONTROL MONUMENT DATA SHEET Sheet of



Designation: **S214P**

Date: 9/14/2010

Monument Description:  
2 1/2" Bronze Disk in 1" Iron  
Pipe in 8" Concrete Pier



**To Reach:**

In the County of Fresno, 1.2 miles south along State Route 43 from the intersection of Davis Avenue, 0.2 mile north of an unnamed bridge crossing an irrigation canal, approximate 6 feet east of the east edge of pavement of State Route 43.

**HORIZONTAL**

DATUM: NAD 83 (NSRS2007)

EPOCH: 2007.00

**Geodetic Coordinates**

	Degrees	Minutes	Seconds	
Latitude :	36°	27'	22.93081"	N
Longitude :	119°	38'	09.89001"	W

**California Coordinate System (CCS83) US Survey Feet**

Zone 4	Northing :	2049872.14	Comb. Factor: 0.99993735
	Easting :	6374608.10	

**VERTICAL**

	US Survey Feet	Method
NAVD88:	268.46	GPS

The orthometric height was determined by two, one-hour GPS observations, using GEOID09 and CGPS ellipsoid heights. Equipment used included fixed height 2.000 meter rods, Trimble 5700 receivers and matching Zephyr Geodetic antennas.

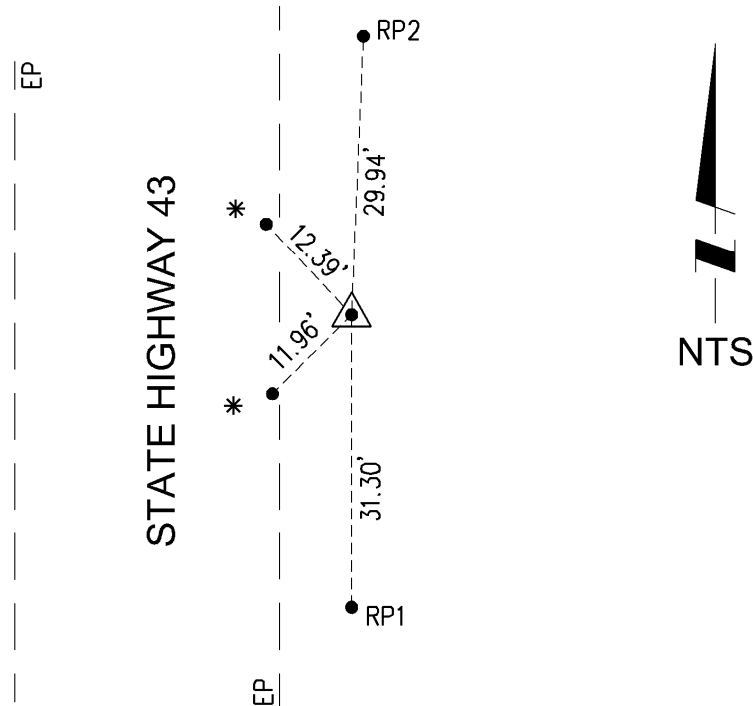


04/02/2014 - RFP No.: HSR 13-57

# SURVEY CONTROL MONUMENT TIE SHEET

Sheet of

PARTY CHIEF: W. Hoff	M. Zwissler	DATE OF SURVEY: 9/09/2010	DESIGNATION: <b>S214P</b>
-------------------------	-------------	------------------------------	------------------------------



## LEGEND:

- CONTROL POINT, 2 1/2" BRONZE DISK IN 1" IRON PIPE IN 8" CONC. PIER, STAMPED "CHSRA S214P LS 4430 2010"
- REFERENCE POINT, SET 5/8" REBAR WITH PLASTIC PLUG, STAMPED "AE RP LS 4430" UNLESS OTHERWISE NOTED.
- \* SET NAIL AND TAG "LS 4430 AE RP" IN PAVEMENT

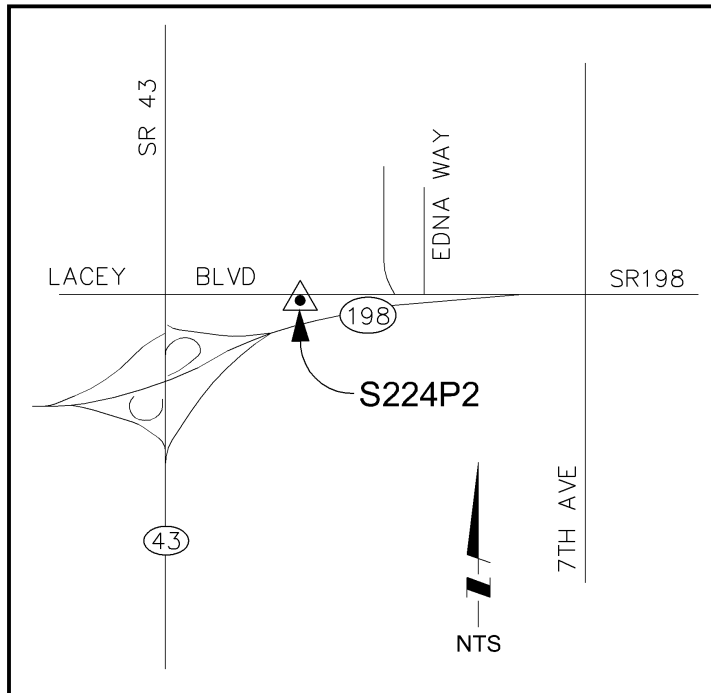
Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S214-P			5.22			2-1/2" BRONZE DISK
RP2	5.51		5.59			5/8" REBAR LS 4430
RP1	5.41		5.41			5/8" REBAR LS 4430
S214-P	5.30					2-1/2" BRONZE DISK



04/02/2014 - RFP No.: HSR 13-57



SURVEY CONTROL MONUMENT DATA SHEET Sheet of



Designation: **S224P2**

Date: 1/17/2011

Monument Description:  
2 1/2" Bronze Disk in 1" Iron  
Pipe in 8" Concrete Pier



**To Reach:**

In the County of Kings, from the intersection of State Route 43 and Lacey Boulevard, easterly along Lacey Boulevard 0.3 miles to the monument on the right, south of the south edge of pavement.

**HORIZONTAL**

DATUM: NAD 83 (NSRS2007)

EPOCH: 2007.00

**Geodetic Coordinates**

	Degrees	Minutes	Seconds	
Latitude :	36°	19'	40.57910"	N
Longitude :	119°	35'	42.90083"	W

**California Coordinate System (CCS83) US Survey Feet**

Zone 4	Northing :	2003041.59	Comb. Factor: 0.99994766
	Easting :	6386325.54	

**VERTICAL**

	US Survey Feet	Method
NAVD88:	243.87	GPS

The orthometric height was determined by two, one-hour GPS observations, using GEOID09 and CGPS ellipsoid heights. Equipment used included fixed height 2.000 meter rods, Trimble 5700 receivers and matching Zephyr Geodetic antennas.

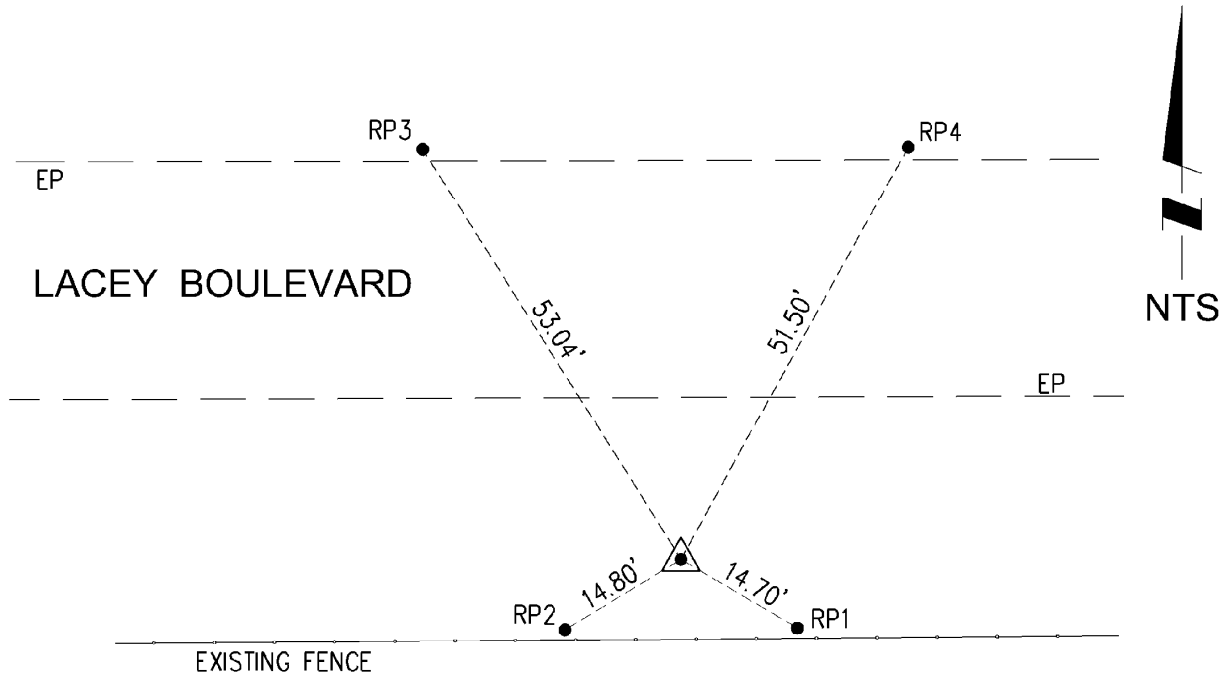


04/02/2014 - RFP No.: HSR 13-57

# SURVEY CONTROL MONUMENT TIE SHEET

Sheet of

PARTY CHIEF: J. TERRY	R. WILLIAMS	DATE OF SURVEY: 1/17/2011	DESIGNATION: <b>S224P2</b>
--------------------------	-------------	------------------------------	-------------------------------



## LEGEND:

- CONTROL POINT, 2 1/2" BRONZE DISK IN 1" IRON PIPE IN 8" CONC. PIER, STAMPED "CHSRA S224P2 LS 4430 2010"
- REFERENCE POINT, SET 5/8" REBAR WITH PLASTIC PLUG, STAMPED "AE RP LS 4430"

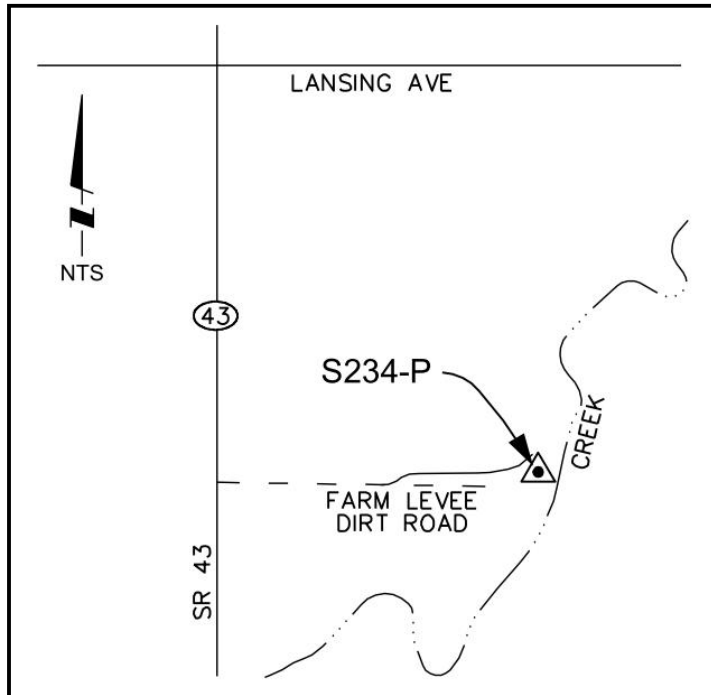
Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S224P2			4.74			2-1/2" BRONZE DISK
	4.74					
RP4			5.16			5/8" REBAR LS 4430
	5.23					
RP3			4.92			5/8" REBAR LS 4430
	3.56					
RP2			3.87			5/8" REBAR LS 4430
	3.90					
RP1			3.63			5/8" REBAR LS 4430
	4.89					
S224P2						2-1/2" BRONZE DISK



04/02/2014 - RFP No.: HSR 13-57



SURVEY CONTROL MONUMENT DATA SHEET Sheet of



Designation: **S234P**

Date: 9/14/2010

Monument Description:  
2 1/2" Bronze Disk in 1" Iron  
Pipe in 8" Concrete Pier



**To Reach:**

In the County of Kings, 1.0 mile south along State Route 43 from the intersection of Lansing Avenue, 0.4 mile north along State Route 43 from the Cross Creek Bridge, 0.8 mile east along a levee road, 80 feet west of creek.

**HORIZONTAL**

DATUM: NAD 83 (NSRS2007)

EPOCH: 2007.00

**Geodetic Coordinates**

	Degrees	Minutes	Seconds	
Latitude :	36°	10'	53.78621"	N
Longitude :	119°	35'	08.69642"	W

**California Coordinate System (CCS83) US Survey Feet**

Zone 4	Northing :	1949754.96	Comb. Factor: 0.99996603
	Easting :	6388799.36	

**VERTICAL**

	US Survey Feet	Method
NAVD88:	205.35	GPS

The orthometric height was determined by two, one-hour GPS observations, using GEOID09 and CGPS ellipsoid heights. Equipment used included fixed height 2.000 meter rods, Trimble 5700 receivers and matching Zephyr Geodetic antennas.

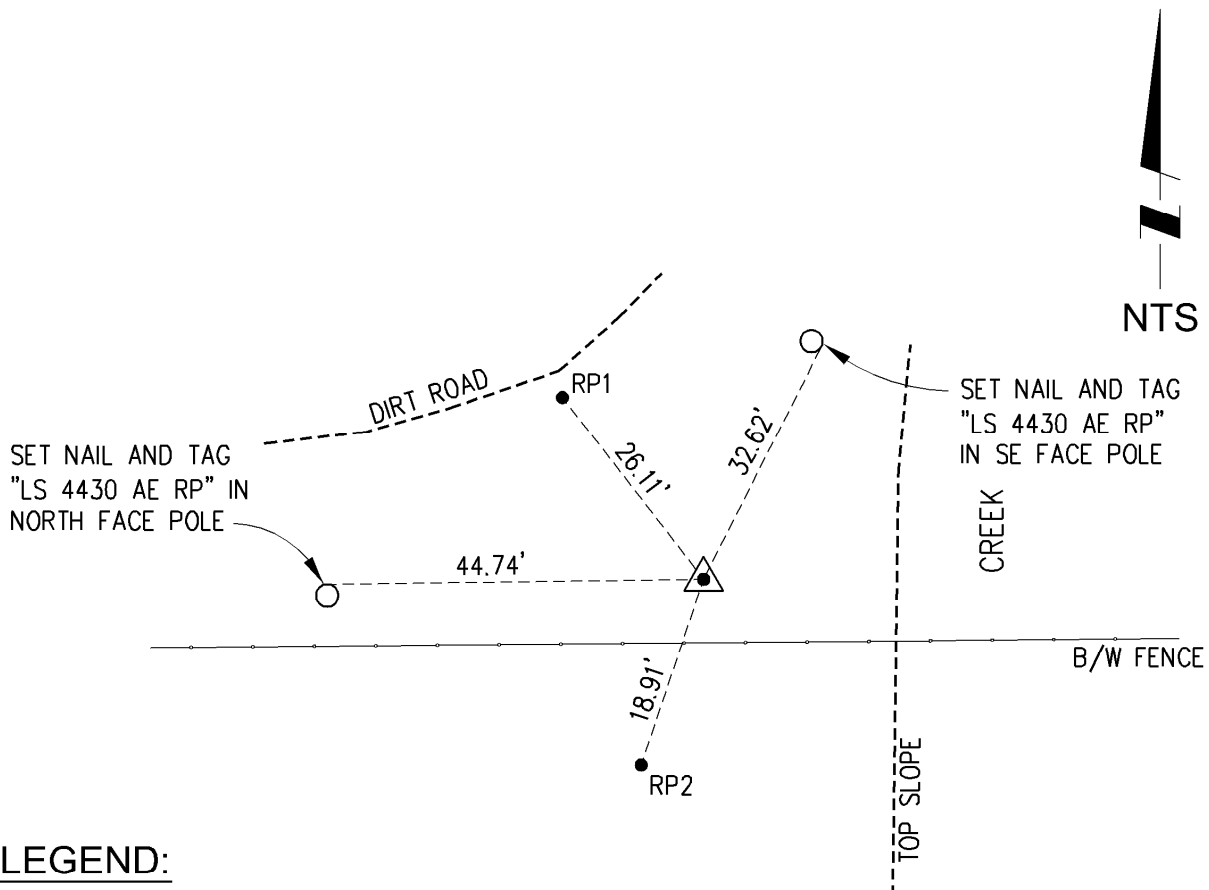


04/02/2014 - RFP No.: HSR 13-57

# SURVEY CONTROL MONUMENT TIE SHEET

Sheet of

PARTY CHIEF: W. Hoff	M. Zwissler	DATE OF SURVEY: 9/08/2010	DESIGNATION: <b>S234P</b>
-------------------------	-------------	------------------------------	------------------------------



## LEGEND:

- CONTROL POINT, 2 1/2" BRONZE DISK IN 1" IRON PIPE IN 8" CONC. PIER, STAMPED "CHSRA S234P LS 4430 2010"
- REFERENCE POINT, SET 1" IRON PIPE WITH PLASTIC PLUG, STAMPED "AE RP LS 4430" UNLESS OTHERWISE NOTED.

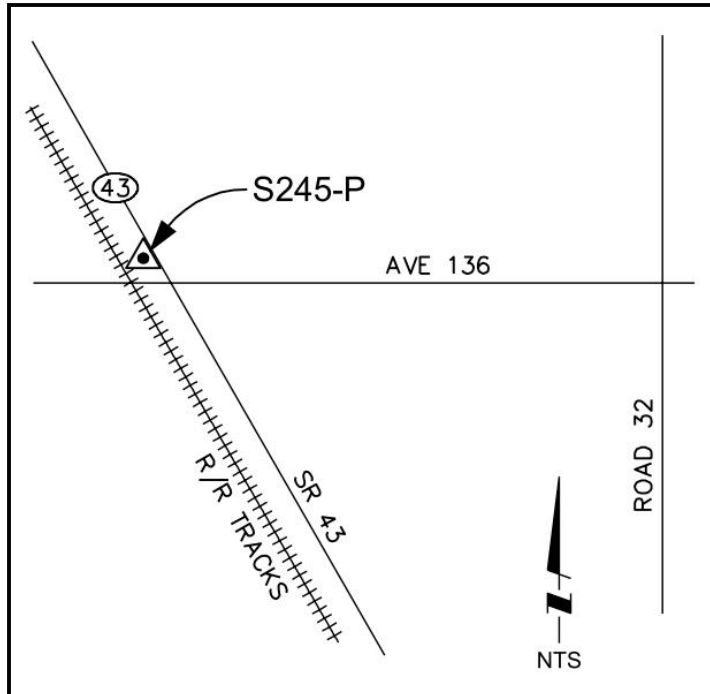
Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S234-P			4.44			2-1/2" BRONZE DISK
RP2	4.90		6.13			1" IP W/PLUG LS 4430
RP1	5.50		5.10			1" IP W/PLUG LS 4430
S234-P	5.27					2-1/2" BRONZE DISK



04/02/2014 - RFP No.: HSR 13-57



SURVEY CONTROL MONUMENT DATA SHEET Sheet of



Designation: **S245P**

Date: 9/14/2010

Monument Description:  
2 1/2" Bronze Disk in 1" Iron  
Pipe in 8" Concrete Pier



**To Reach:**

In the County of Tulare, 150 feet northwesterly along State Route 43 from the intersection of Avenue 136, 30 feet southwesterly from the centerline of State Route 43, 200 feet northeasterly of the railroad tracks.

**HORIZONTAL**

DATUM: NAD 83 (NSRS2007)

EPOCH: 2007.00

**Geodetic Coordinates**

	Degrees	Minutes	Seconds	
Latitude :	36°	02'	12.11815"	N
Longitude :	119°	30'	39.43538"	W

**California Coordinate System (CCS83) US Survey Feet**

Zone 4	Northing :	1896877.75	
	Easting :	6410592.04	Comb. Factor: 0.99998914

Note: Original monument destroyed. Reset new monument on October 24, 2010, at Horizontal and Vertical position, per ties shown on Survey Control Monument Tie Sheet

**VERTICAL**

	US Survey Feet	Method
NAVD88:	196.47	GPS

The orthometric height was determined by two, one-hour GPS observations, using GEOID09 and CGPS ellipsoid heights. Equipment used included fixed height 2.000 meter rods, Trimble 5700 receivers and matching Zephyr Geodetic antennas.

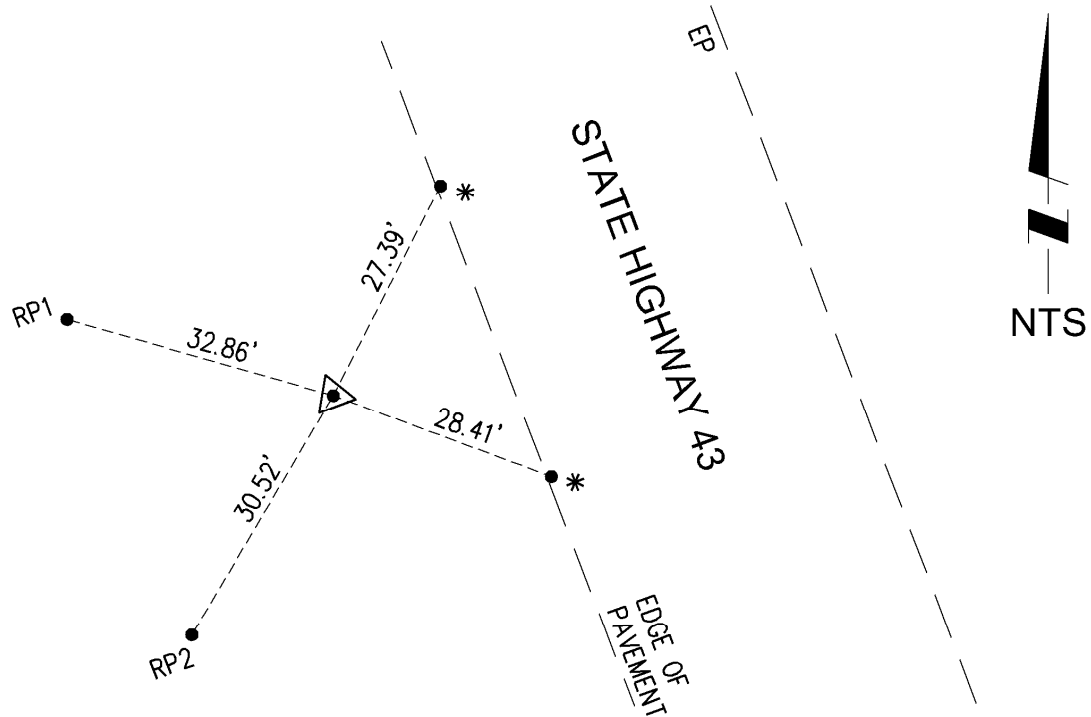


04/02/2014 - RFP No.: HSR 13-57

# SURVEY CONTROL MONUMENT TIE SHEET

Sheet of

PARTY CHIEF: W. Hoff	M. Zwissler	DATE OF SURVEY: 9/08/2010	DESIGNATION: <b>S245P</b>
-------------------------	-------------	------------------------------	------------------------------



## LEGEND:

- CONTROL POINT, 2 1/2" BRONZE DISK IN 1" IRON PIPE IN 8" CONC. PIER, STAMPED "CHSRA S245P LS 4430 2010"
- REFERENCE POINT, SET 1" IRON PIPE WITH PLASTIC PLUG, STAMPED "AE RP LS 4430" UNLESS OTHERWISE NOTED.
- \* SET NAIL AND TAG "LS 4430 AE RP" IN PAVEMENT

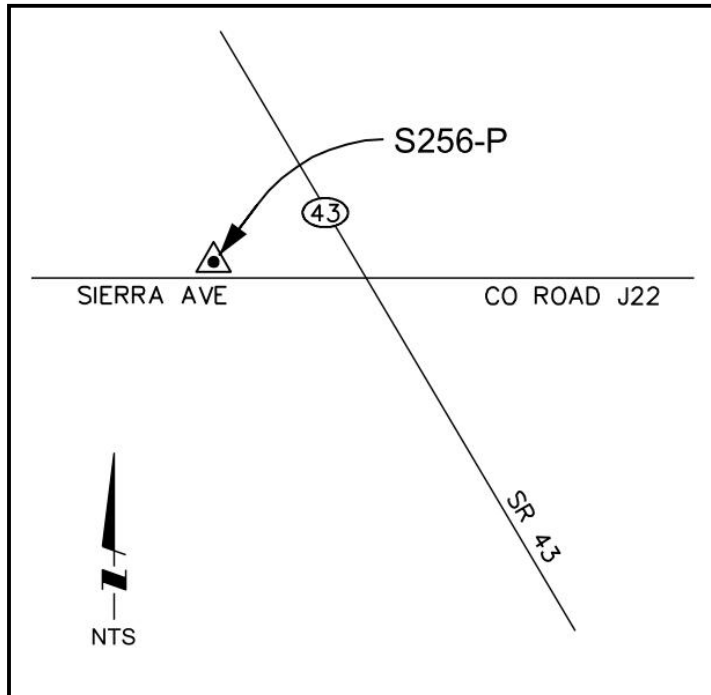
Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S245-P			2.97			2-1/2" BRONZE DISK
RP2	4.71		4.39			1" IP W/PLUG LS 4430
RP1	4.65		6.83			1" IP W/PLUG LS 4430
S245-P	4.83					2-1/2" BRONZE DISK



04/02/2014 - RFP No.: HSR 13-57



SURVEY CONTROL MONUMENT DATA SHEET Sheet of



Designation: **S256P**

Date: 9/14/2010

Monument Description:  
2 1/2" Bronze Disk in 1" Iron  
Pipe in 8" Concrete Pier



**To Reach:**

In the County of Tulare, North side of Sierra Avenue (County Road J22) (Avenue 56), 0.45 mile west of State Route 43.

**HORIZONTAL**

DATUM: NAD 83 (NSRS2007)

EPOCH: 2007.00

Geodetic Coordinates	Degrees	Minutes	Seconds	
Latitude :	35°	53'	28.80672"	N
Longitude :	119°	24'	49.28885"	W

**California Coordinate System (CCS83) US Survey Feet**

<b>Zone 4</b>	<b>Northing</b> :	1843821.62	<b>Comb. Factor:</b> 1.00001826
	<b>Easting</b> :	6439121.77	
<b>Zone 5</b>	<b>Northing</b> :	2513706.33	<b>Comb. Factor:</b> 1.00011616
	<b>Easting</b> :	6142870.27	

**VERTICAL**

	US Survey Feet	Method
<b>NAVD88:</b>	195.41	GPS

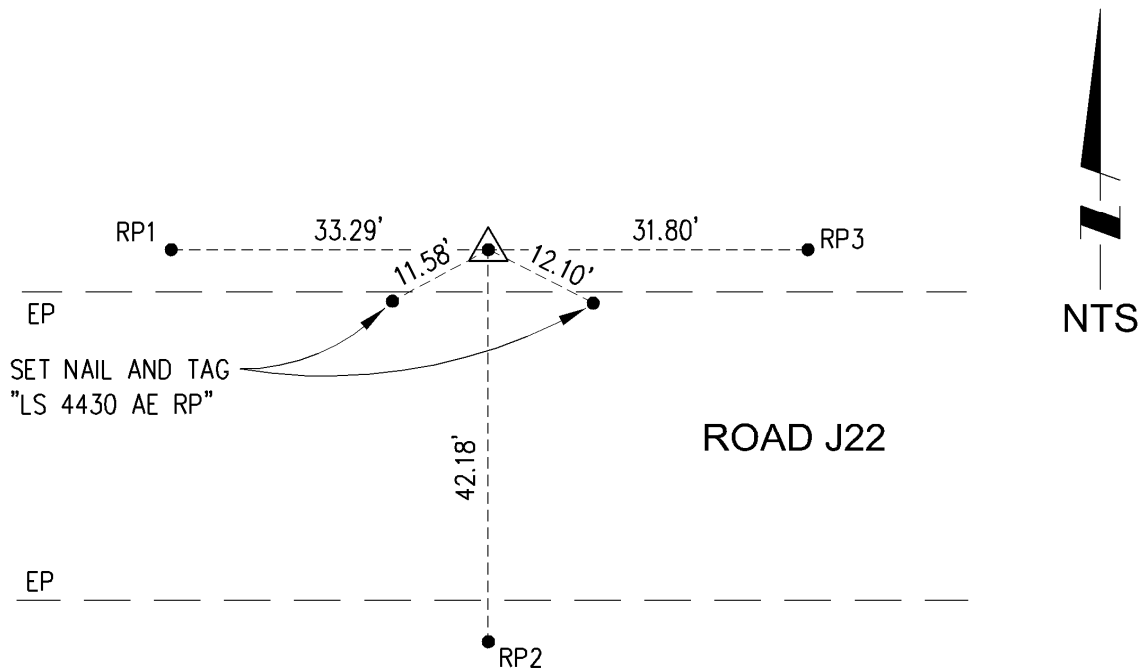
The orthometric height was determined by two, one-hour GPS observations, using GEOID09 and CGPS ellipsoid heights. Equipment used included fixed height 2.000 meter rods, Trimble 5700 receivers and matching Zephyr Geodetic antennas.




# SURVEY CONTROL MONUMENT TIE SHEET

Sheet of

PARTY CHIEF: W. Hoff	M. Zwissler	DATE OF SURVEY: 9/09/2010	DESIGNATION: <b>S256P</b>
-------------------------	-------------	------------------------------	------------------------------



## LEGEND:

-  CONTROL POINT, 2 1/2" BRONZE DISK IN 1" IRON PIPE IN 8" CONC. PIER, STAMPED "CHSRA S256P LS 4430 2010"
- REFERENCE POINT, SET 1" IRON PIPE WITH PLASTIC PLUG, STAMPED "AE RP LS 4430" UNLESS OTHERWISE NOTED.

Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S256-P			4.92			2-1/2" BRONZE DISK
	5.29					
RP3			5.29			1" IP W/PLUG LS 4430
	4.94					
RP2			5.09			1" IP W/PLUG LS 4430
	5.35					
RP1			5.60			1" IP W/PLUG LS 4430
	5.32					
S256-P						2-1/2" BRONZE DISK



04/02/2014 - RFP No.: HSR 13-57

SURVEY CONTROL MONUMENT DATA SHEET Sheet of



Designation: **S198**

Date: 11/17/2011

Monument Description:  
2 1/2" Bronze Disk in 1" Iron  
Pipe in 8" Concrete Pier



**To Reach:**

In the County of Fresno, from the intersection of Cedar Avenue and American Avenue, proceed west along American Avenue, 0.2 mile to the Monument on the left.

**HORIZONTAL**

DATUM: NAD 83 (NSRS2007)

EPOCH: 2007.00

**Geodetic Coordinates**

		Degrees	Minutes	Seconds	
Latitude	:	36°	39'	48.08548"	N
Longitude	:	119°	45'	27.95290"	W

**California Coordinate System (CCS83) US Survey Feet**

Zone 4	Northing	:	2125483.45	Comb. Factor: 0.99993222
	Easting	:	6339418.46	

**VERTICAL**

	US Survey Feet	Method
NAVD88:	288.65	Levels/GPS

Vertical elevations were established from differential levels between primary control monuments.



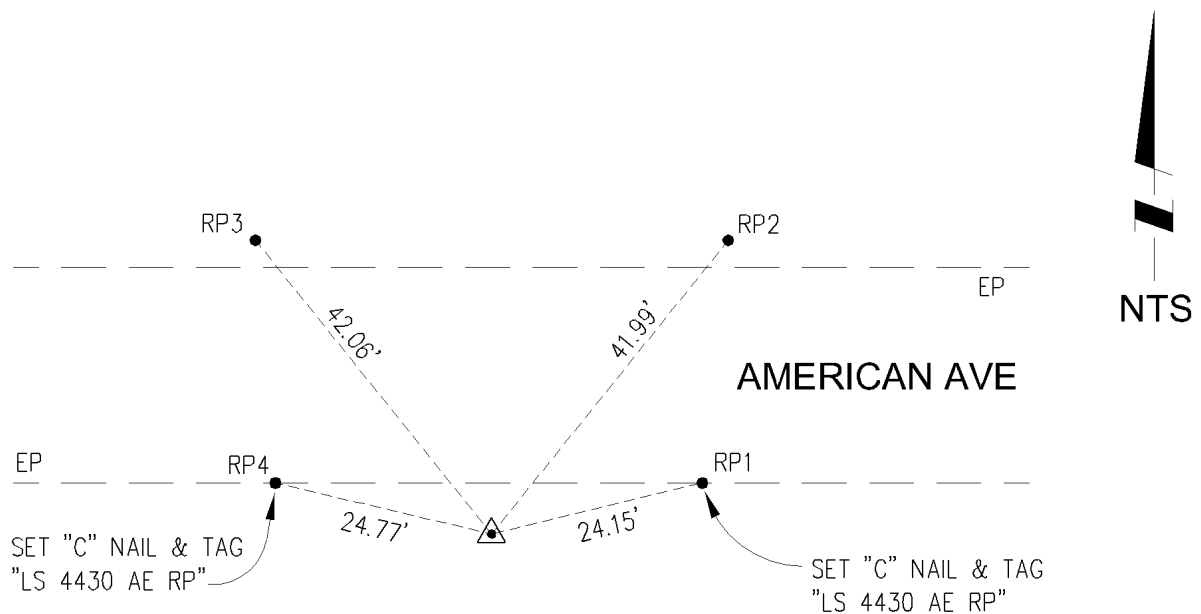
04/02/2014 - RFP No.: HSR 13-57



# SURVEY CONTROL MONUMENT TIE SHEET

Sheet of

PARTY CHIEF: J. TERRY	R. WILLIAMS	DATE OF SURVEY: 9/20/2011	DESIGNATION: <b>S198</b>
--------------------------	-------------	------------------------------	-----------------------------



## LEGEND:

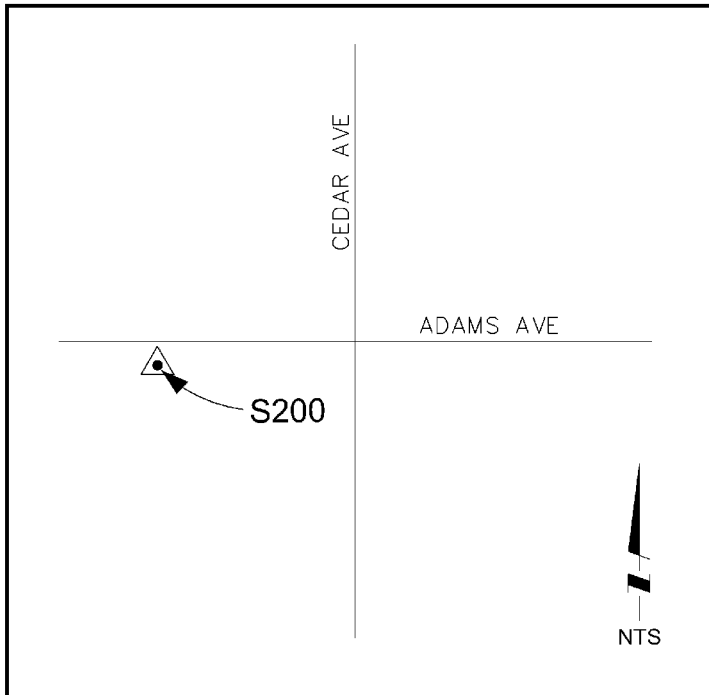
- CONTROL POINT, 2 1/2" BRONZE DISK IN 1" IRON PIPE IN 8" CONC. PIER, STAMPED "CHSRA S198 LS 4430 2011"
- REFERENCE POINT, SET 5/8" REBAR WITH PLASTIC PLUG, STAMPED "AE RP LS 4430" UNLESS OTHERWISE NOTED.

Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S198			5.29			2-1/2" BRONZE DISK
	5.42					
RP1			5.14			NAIL & TAG LS 4430
	5.51					
RP2			5.74			5/8" REBAR LS 4430
	5.81					
RP3			5.46			5/8" REBAR LS 4430
	5.08					
RP4			5.31			NAIL & TAG LS 4430
	5.12					
S198						2-1/2" BRONZE DISK



04/02/2014 - RFP No.: HSR 13-57

SURVEY CONTROL MONUMENT DATA SHEET Sheet of



Designation: **S200**

Date: 11/17/2011

Monument Description:  
2 1/2" Bronze Disk in 1" Iron  
Pipe in 8" Concrete Pier



**To Reach:**

In the County of Fresno, from the intersection of Cedar Avenue and E. Adams Avenue, proceed west along E. Adams Avenue, 0.2 mile to the Monument on the left.

**HORIZONTAL**

DATUM: NAD 83 (NSRS2007)

EPOCH: 2007.00

**Geodetic Coordinates**

		Degrees	Minutes	Seconds	
Latitude	:	36°	38'	03.47121"	N
Longitude	:	119°	45'	32.88179"	W

**California Coordinate System (CCS83) US Survey Feet**

Zone 4	Northing	:	2114907.66	
	Easting	:	6338933.28	Comb. Factor: 0.99993224

**VERTICAL**

	US Survey Feet	Method
NAVD88:	284.41	Levels/GPS

Vertical elevations were established from differential levels between primary control monuments.

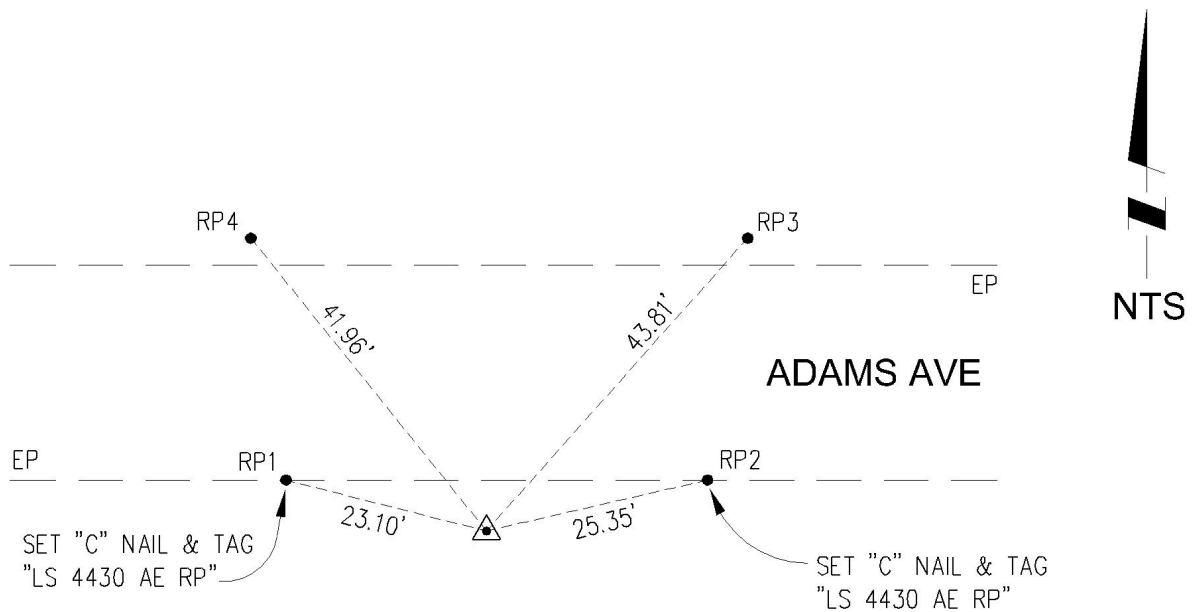


04/02/2014 - RFP No.: HSR 13-57

# SURVEY CONTROL MONUMENT TIE SHEET

Sheet of

PARTY CHIEF: J. TERRY	R. WILLIAMS	DATE OF SURVEY: 9/20/2011	DESIGNATION: <b>S200</b>
--------------------------	-------------	------------------------------	-----------------------------



## LEGEND:

- CONTROL POINT, 2 1/2" BRONZE DISK IN 1" IRON PIPE IN 8" CONC. PIER, STAMPED "CHSRA S200 LS 4430 2011"
- REFERENCE POINT, SET 5/8" REBAR WITH PLASTIC PLUG, STAMPED "AE RP LS 4430" UNLESS OTHERWISE NOTED.

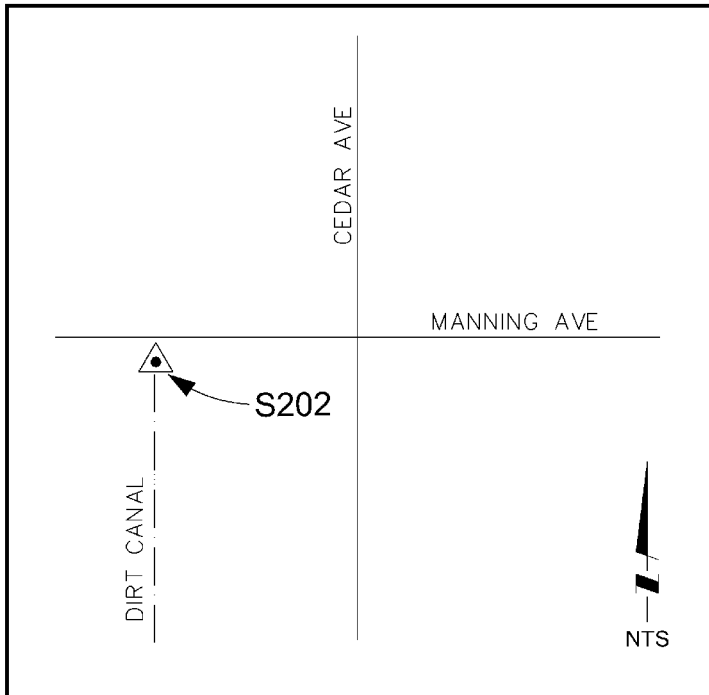
Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S200			5.31			2-1/2" BRONZE DISK
	5.09					
RP4			5.32			5/8" REBAR LS 4430
	5.34					
RP3			5.08			5/8" REBAR LS 4430
	5.00					
RP2			5.27			NAIL & TAG LS 4430
	5.22					
RP1			5.03			NAIL & TAG LS 4430
	5.36					
S200						2-1/2" BRONZE DISK



04/02/2014 - RFP No.: HSR 13-57



SURVEY CONTROL MONUMENT DATA SHEET Sheet      of



**Designation: S202**

**Date: 11/17/2011**

**Monument Description:**  
**2 ½" Bronze Disk in 1" Iron**  
**Pipe in 8" Concrete Pier**



**To Reach:**

In the County of Fresno, from the intersection of Cedar Avenue and Manning Avenue, proceed west along Manning Avenue, 0.1 mile to the Monument on the left.

**HORIZONTAL**

**DATUM: NAD 83 (NSRS2007)**

**EPOCH: 2007.00**

**Geodetic Coordinates**

		<b>Degrees</b>	<b>Minutes</b>	<b>Seconds</b>	
<b>Latitude</b>	:	36°	36'	18.80457"	N
<b>Longitude</b>	:	119°	45'	25.45646"	W

**California Coordinate System (CCS83) US Survey Feet**

<b>Zone 4</b>	<b>Northing</b>	:	2104318.67	
	<b>Easting</b>	:	6339455.01	<b>Comb. Factor: 0.99993259</b>

**VERTICAL**

	<b>US Survey Feet</b>	<b>Method</b>
<b>NAVD88:</b>	278.34	Levels/GPS

Vertical elevations were established from differential levels between primary control monuments.

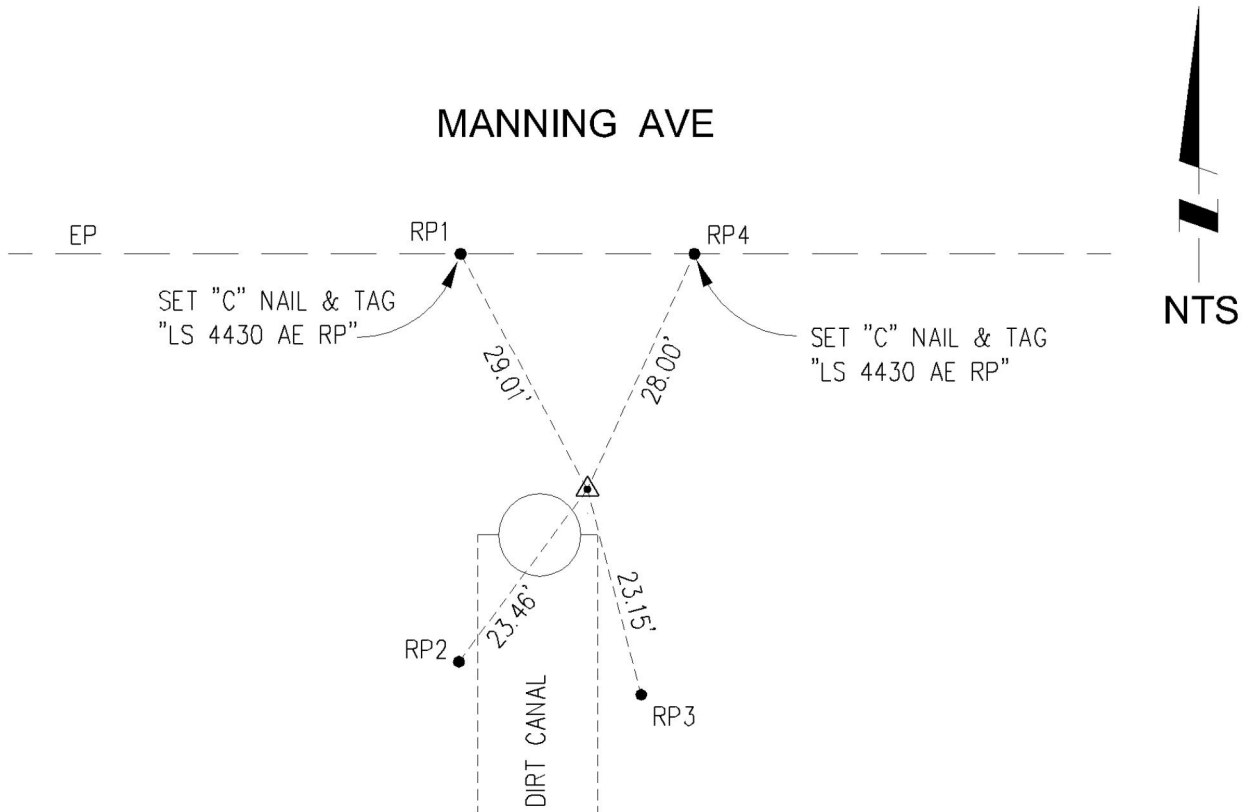


04/02/2014 - RFP No.: HSR 13-57

# SURVEY CONTROL MONUMENT TIE SHEET

Sheet of

PARTY CHIEF: J. TERRY	R. WILLIAMS	DATE OF SURVEY: 9/20/2011	DESIGNATION: <b>S202</b>
--------------------------	-------------	------------------------------	-----------------------------



## LEGEND:

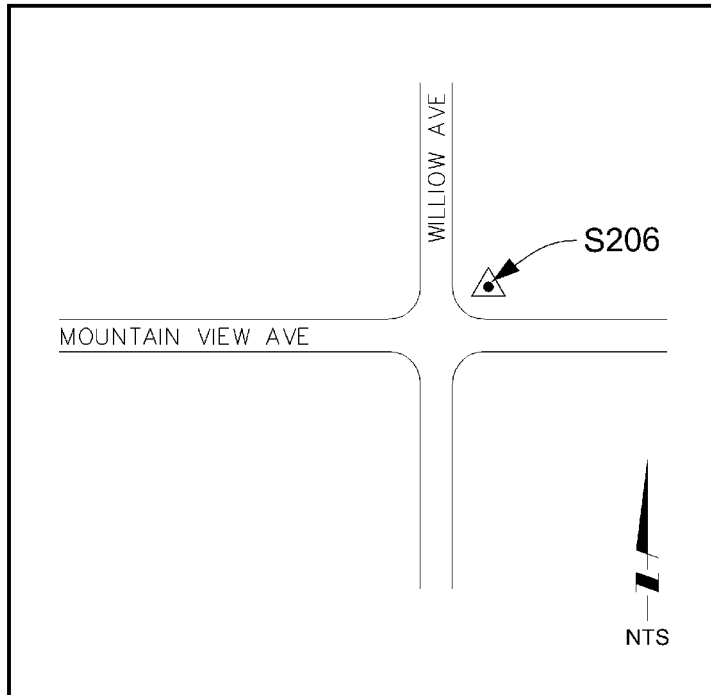
- CONTROL POINT, 2 1/2" BRONZE DISK IN 1" IRON PIPE IN 8" CONC. PIER, STAMPED "CHSRA S202 LS 4430 2011"
- REFERENCE POINT, SET 5/8" REBAR WITH PLASTIC PLUG, STAMPED "AE RP LS 4430" UNLESS OTHERWISE NOTED.

Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S202			5.07			2-1/2" BRONZE DISK
	5.19					
RP4			5.35			NAIL & TAG LS 4430
	5.01					
RP3			4.74			5/8" REBAR LS 4430
	5.41					
RP2			5.64			5/8" REBAR LS 4430
	5.37					
RP1			5.16			NAIL & TAG LS 4430
	4.98					
S202						2-1/2" BRONZE DISK



04/02/2014 - RFP No.: HSR 13-57

SURVEY CONTROL MONUMENT DATA SHEET Sheet of



Designation: **S206**

Date: 11/17/2011

Monument Description:  
2 1/2" Bronze Disk in 1" Iron  
Pipe in 8" Concrete Pier



**To Reach:**

In the County of Fresno, Monument is at the northeast corner of the intersection of Mountain View Avenue and Willow Avenue.

**HORIZONTAL**

DATUM: NAD 83 (NSRS2007)

EPOCH: 2007.00

Geodetic Coordinates		Degrees	Minutes	Seconds	
Latitude	:	36°	32'	50.55107"	N
Longitude	:	119°	43'	38.80778"	W

California Coordinate System (CCS83) US Survey Feet

Zone 4	Northing	:	2083192.34		
	Easting	:	6347990.60	Comb. Factor:	0.99993366

**VERTICAL**

	US Survey Feet	Method
NAVD88:	274.26	Levels/GPS

Vertical elevations were established from differential levels between primary control monuments.

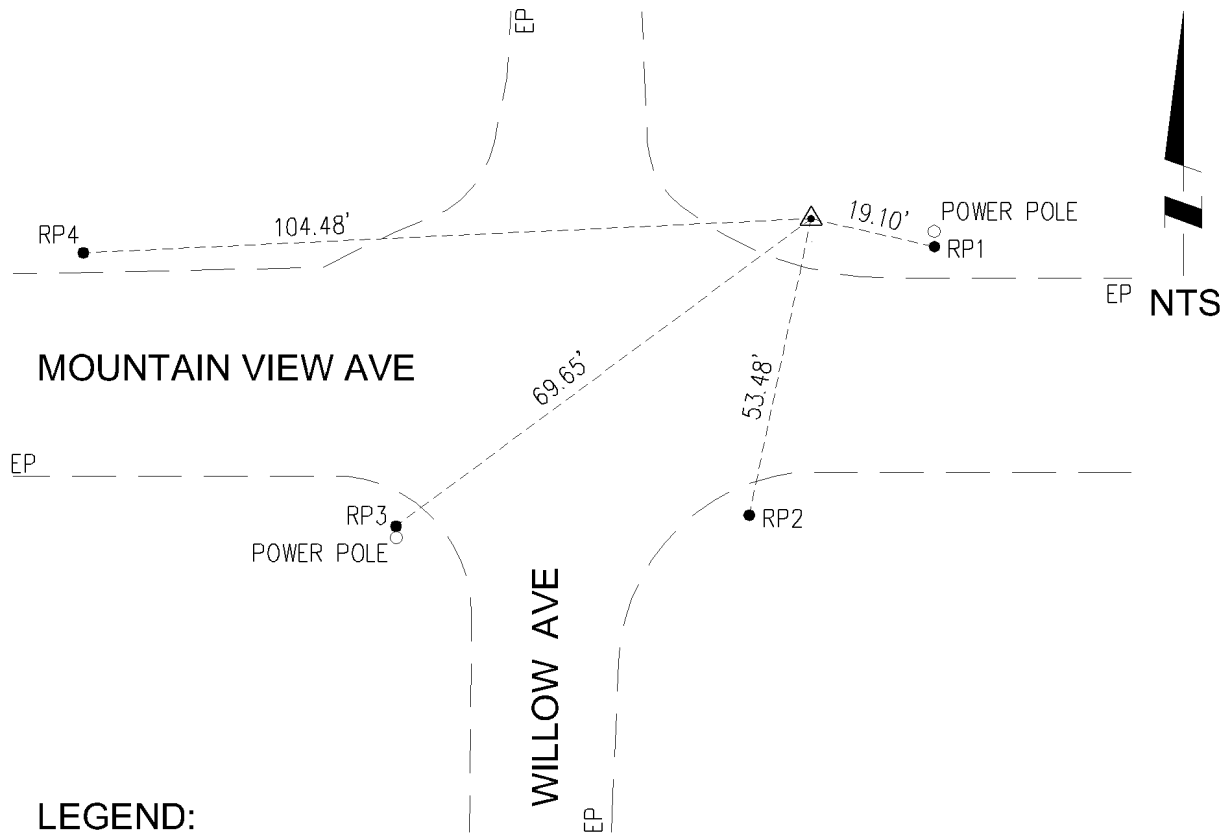




# SURVEY CONTROL MONUMENT TIE SHEET

Sheet of

PARTY CHIEF: J. TERRY	R. WILLIAMS	DATE OF SURVEY: 9/20/2011	DESIGNATION: <b>S206</b>
--------------------------	-------------	------------------------------	-----------------------------



## LEGEND:

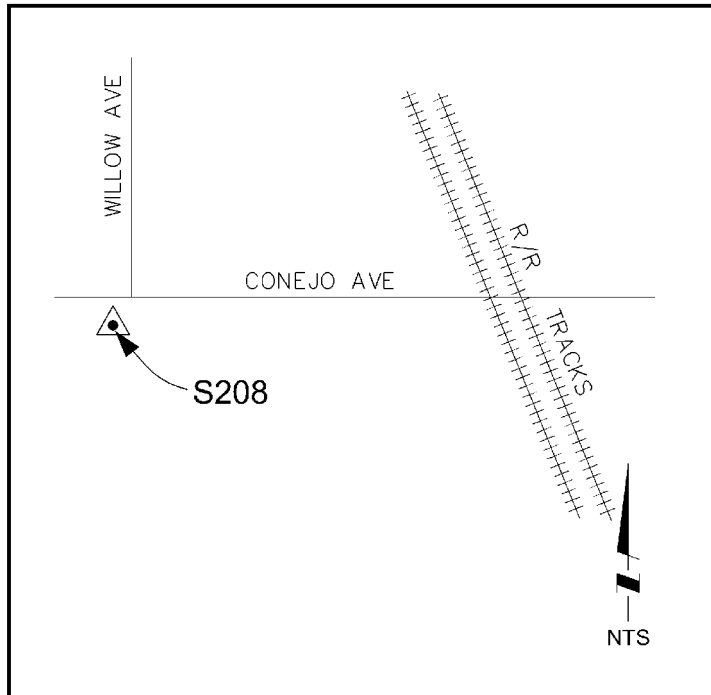
- △ CONTROL POINT, 2 1/2" BRONZE DISK IN 1" IRON PIPE IN 8" CONC. PIER, STAMPED "CHSRA S206 LS 4430 2011"
- REFERENCE POINT, SET 5/8" REBAR WITH PLASTIC PLUG, STAMPED "AE RP LS 4430" UNLESS OTHERWISE NOTED.

Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S206			5.67			2-1/2" BRONZE DISK
	3.61					
RP4			3.28			5/8" REBAR LS 4430
	4.60					
RP3			4.87			5/8" REBAR LS 4430
	5.35					
RP2			5.01			5/8" REBAR LS 4430
	5.02					
RP1			5.25			5/8" REBAR LS 4430
	5.50					
S206						2-1/2" BRONZE DISK



04/02/2014 - RFP No.: HSR 13-57

SURVEY CONTROL MONUMENT DATA SHEET Sheet of



Designation: **S208**

Date: 11/17/2011

Monument Description:  
2 1/2" Bronze Disk in 1" Iron  
Pipe in 8" Concrete Pier



**To Reach:**

In the County of Fresno, at the intersection of Conejo Avenue and Willow Avenue, Monument is located on the south side of Conejo Avenue.

**HORIZONTAL**

DATUM: NAD 83 (NSRS2007)

EPOCH: 2007.00

Geodetic Coordinates		Degrees	Minutes	Seconds	
Latitude	:	36°	31'	05.71078"	N
Longitude	:	119°	43'	39.84742"	W

California Coordinate System (CCS83) US Survey Feet

Zone 4	Northing	:	2072591.33		
	Easting	:	6347825.43	Comb. Factor:	0.99993528

**VERTICAL**

	US Survey Feet	Method
NAVD88:	257.95	Levels/GPS

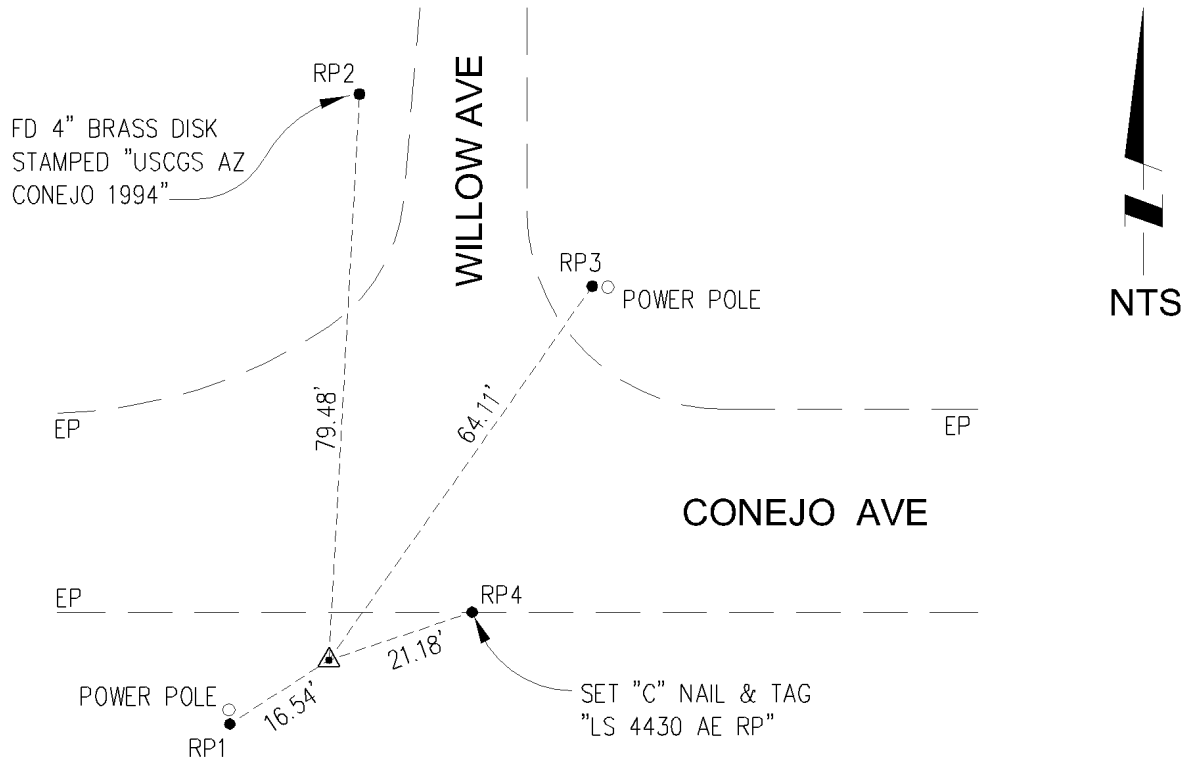
Vertical elevations were established from differential levels between primary control monuments.



# SURVEY CONTROL MONUMENT TIE SHEET

Sheet of

PARTY CHIEF: J. TERRY	R. WILLIAMS	DATE OF SURVEY: 9/20/2011	DESIGNATION: <b>S208</b>
--------------------------	-------------	------------------------------	-----------------------------



## LEGEND:

- △ CONTROL POINT, 2 ½" BRONZE DISK IN 1" IRON PIPE IN 8" CONC. PIER, STAMPED "CHSRA S208 LS 4430 2011"
- REFERENCE POINT, SET ⅝" REBAR WITH PLASTIC PLUG, STAMPED "AE RP LS 4430" UNLESS OTHERWISE NOTED.

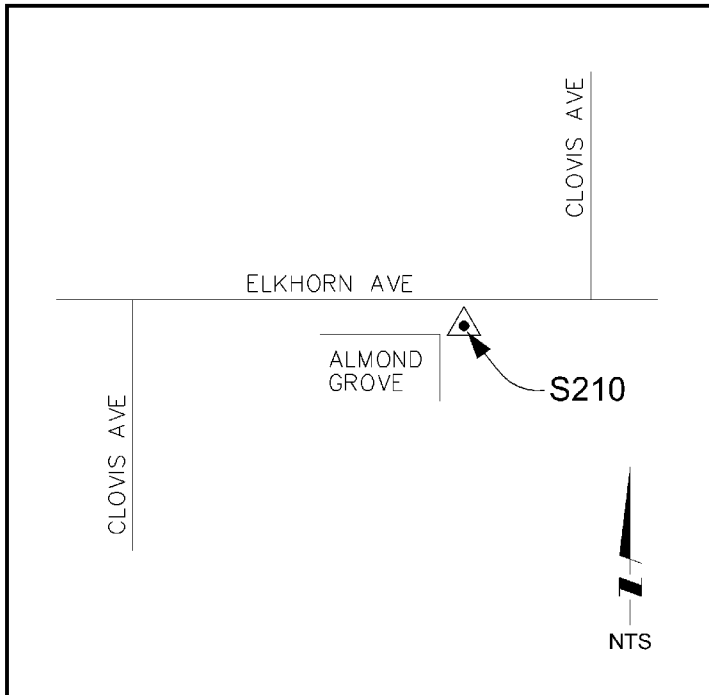
Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S208			5.73			2-1/2" BRONZE DISK
	4.80					
RP4			5.00			NAIL & TAG LS 4430
	4.97					
RP3			4.76			5/8" REBAR LS 4430
	4.28					
RP2			4.50			4" BRASS DISK
	5.60					
RP1			5.57			5/8" REBAR LS 4430
	5.91					
S208						2-1/2" BRONZE DISK



04/02/2014 - RFP No.: HSR 13-57



# SURVEY CONTROL MONUMENT DATA SHEET Sheet      of



**Designation: S210**

**Date: 11/17/2011**

**Monument Description:**  
**2 ½" Bronze Disk in 1" Iron**  
**Pipe in 8" Concrete Pier**



**To Reach:**

In the County of Fresno, from the intersection of Elkhorn Avenue and Clovis Avenue, proceed east along Elkhorn, 0.2 mile to Monument on the right. Monument is at the northeast corner of an Almond Grove.

## HORIZONTAL

**DATUM: NAD 83 (NSRS2007)**

**EPOCH: 2007.00**

Geodetic Coordinates	Degrees	Minutes	Seconds	
Latitude :	36°	29'	21.26248"	N
Longitude :	119°	42'	11.80407"	W

**California Coordinate System (CCS83) US Survey Feet**

<b>Zone 4</b>	<b>Northing</b>	:	2061975.79	
	<b>Easting</b>	:	6354934.37	<b>Comb. Factor: 0.99993617</b>

## VERTICAL

	US Survey Feet	Method
<b>NAVD88:</b>	261.76	Levels/GPS

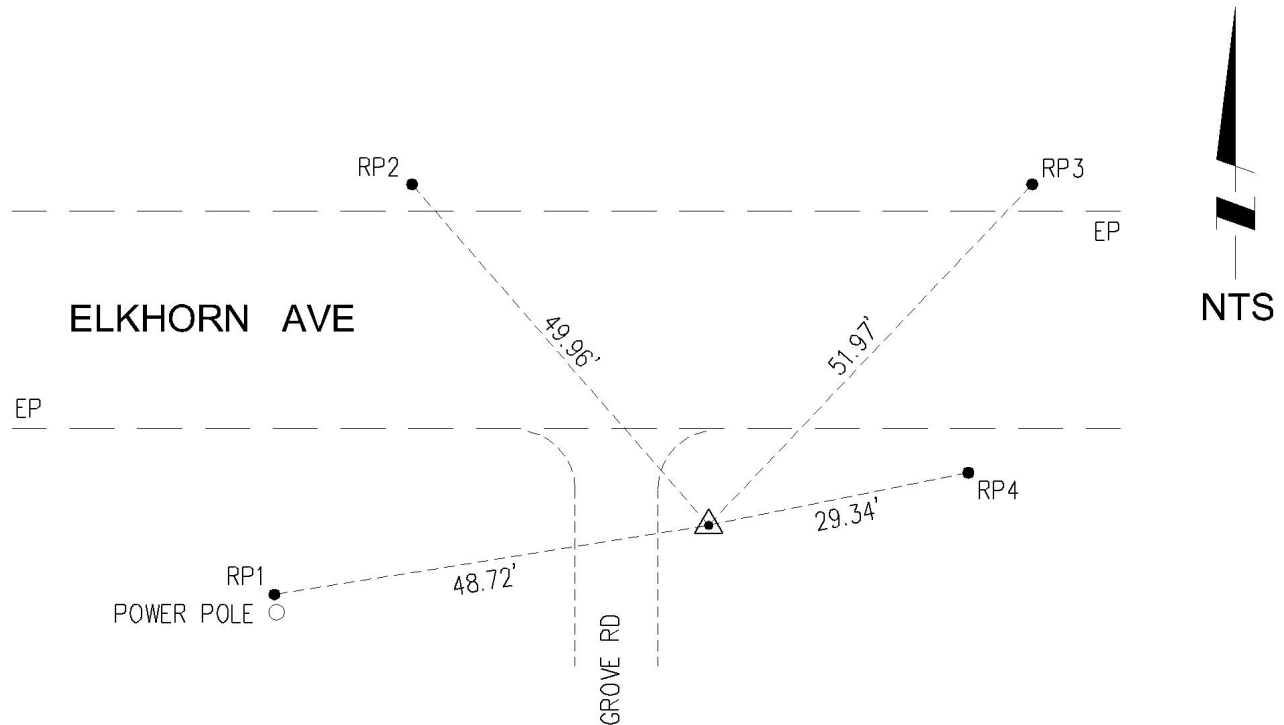
Vertical elevations were established from differential levels between primary control monuments.



# SURVEY CONTROL MONUMENT TIE SHEET

Sheet of

PARTY CHIEF: J. TERRY	R. WILLIAMS	DATE OF SURVEY: 9/20/2011	DESIGNATION: <b>S210</b>
--------------------------	-------------	------------------------------	-----------------------------



## LEGEND:

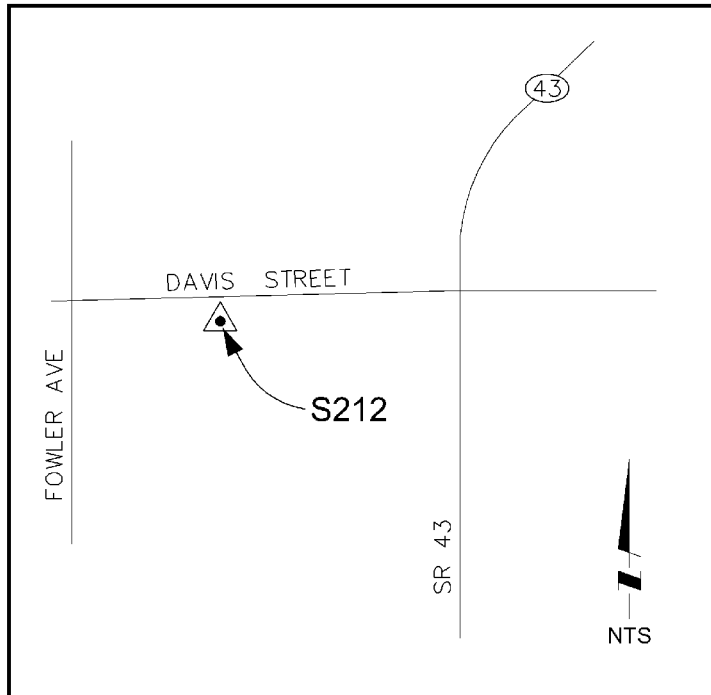
- CONTROL POINT, 2 1/2" BRONZE DISK IN 1" IRON PIPE IN 8" CONC. PIER, STAMPED "CHSRA S210 LS 4430 2011"
- REFERENCE POINT, SET 5/8" REBAR WITH PLASTIC PLUG, STAMPED "AE RP LS 4430" UNLESS OTHERWISE NOTED.

Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S210			4.53			2-1/2" BRONZE DISK
	4.69					
RP4			4.96			5/8" REBAR LS 4430
	5.15					
RP3			4.90			5/8" REBAR LS 4430
	4.98					
RP2			5.32			5/8" REBAR LS 4430
	5.52					
RP1			5.34			5/8" REBAR LS 4430
	4.71					
S210						2-1/2" BRONZE DISK



04/02/2014 - RFP No.: HSR 13-57

# SURVEY CONTROL MONUMENT DATA SHEET Sheet      of



**Designation:** **S212**

**Date:** 11/17/2011

**Monument Description:**  
**2 ½" Bronze Disk in 1" Iron Pipe in 8" Concrete Pier**



**To Reach:**

In the County of Fresno, from the intersection of Highway 43 and Davis Street, proceed west along Davis Street, 2.1 miles to the Monument on the left.

## HORIZONTAL

**DATUM:** NAD 83 (NSRS2007)

**EPOCH:** 2007.00

Geodetic Coordinates		Degrees	Minutes	Seconds	
Latitude	:	36°	28'	27.20345"	N
Longitude	:	119°	40'	27.32002"	W

**California Coordinate System (CCS83) US Survey Feet**

<b>Zone 4</b>	<b>Northing</b>	:	2056448.07	
	<b>Easting</b>	:	6363427.40	
				<b>Comb. Factor:</b> 0.99993691

## VERTICAL

	US Survey Feet	Method
<b>NAVD88:</b>	259.79	Levels/GPS

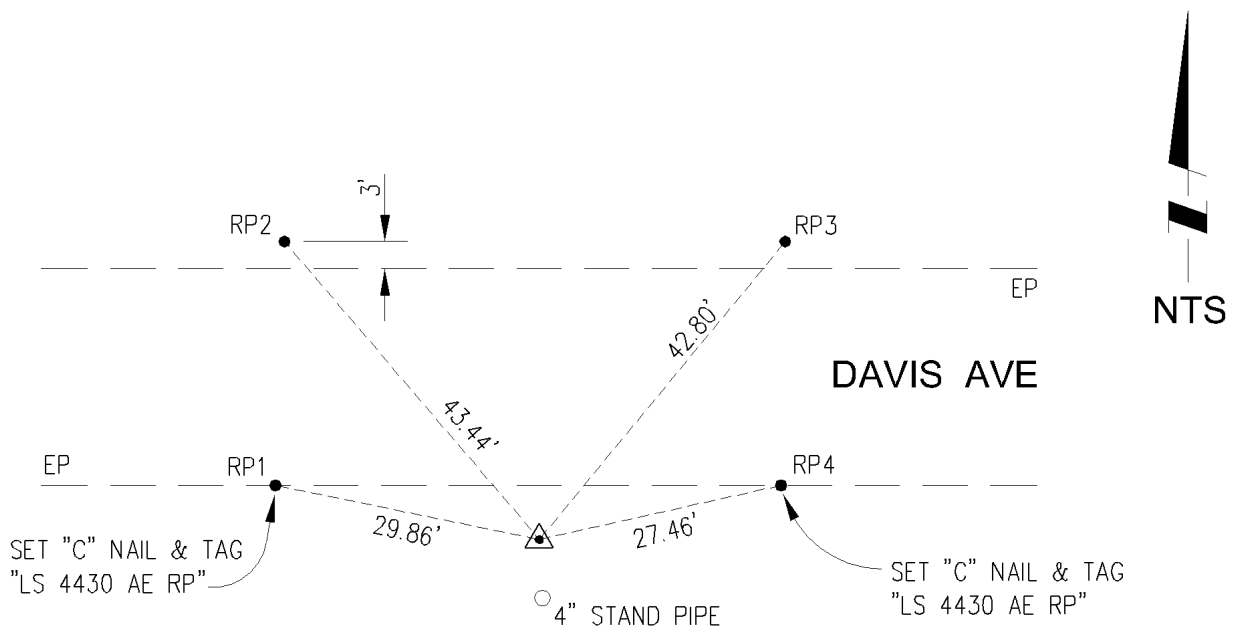
Vertical elevations were established from differential levels between primary control monuments.



# SURVEY CONTROL MONUMENT TIE SHEET

Sheet of

PARTY CHIEF: J. TERRY	R. WILLIAMS	DATE OF SURVEY: 9/20/2011	DESIGNATION: <b>S212</b>
--------------------------	-------------	------------------------------	-----------------------------



## LEGEND:

- CONTROL POINT, 2 1/2" BRONZE DISK IN 1" IRON PIPE IN 8" CONC. PIER, STAMPED "CHSRA S212 LS 4430 2011"
- REFERENCE POINT, SET 5/8" REBAR WITH PLASTIC PLUG, STAMPED "AE RP LS 4430" UNLESS OTHERWISE NOTED.

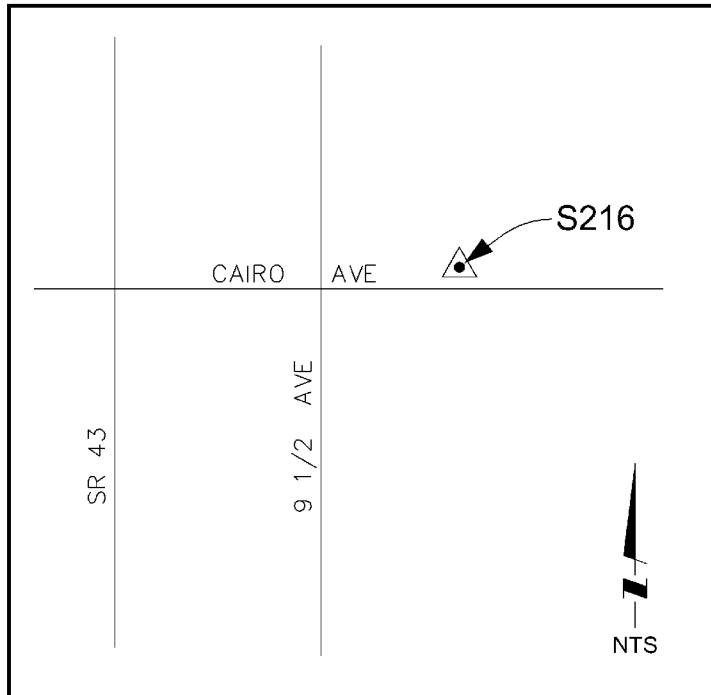
Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S212			5.08			2-1/2" BRONZE DISK
	4.78					
RP4			5.05			NAIL & TAG LS 4430
	5.47					
RP3			5.22			5/8" REBAR LS 4430
	5.09					
RP2			5.42			5/8" REBAR LS 4430
	5.13					
RP1			4.95			NAIL & TAG LS 4430
	5.25					
S212						2-1/2" BRONZE DISK



04/02/2014 - RFP No.: HSR 13-57



SURVEY CONTROL MONUMENT DATA SHEET Sheet of



Designation: **S216**

Date: 11/17/2011

Monument Description:  
2 1/2" Bronze Disk in 1" Iron  
Pipe in 8" Concrete Pier



**To Reach:**

In the County of Kings, from the intersection of Cairo Avenue and 9 1/2 Avenue, proceed east along Cairo, 0.3 mile to the Monument on the left.

**HORIZONTAL**

DATUM: NAD 83 (NSRS2007)

EPOCH: 2007.00

**Geodetic Coordinates**

		Degrees	Minutes	Seconds	
Latitude	:	36°	26'	16.95543"	N
Longitude	:	119°	37'	23.11056"	W

**California Coordinate System (CCS83) US Survey Feet**

Zone 4	Northing	:	2043175.55		
	Easting	:	6378386.12	Comb. Factor:	0.99993830

**VERTICAL**

	US Survey Feet	Method
NAVD88:	269.38	Levels/GPS

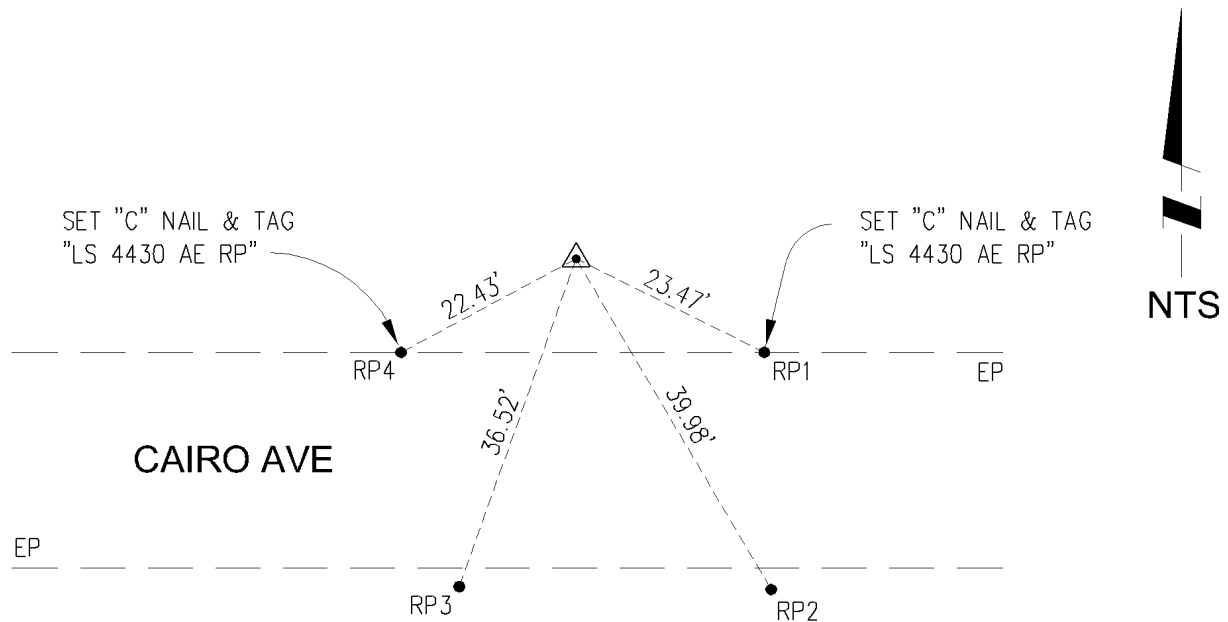
Vertical elevations were established from differential levels between primary control monuments.



# SURVEY CONTROL MONUMENT TIE SHEET

Sheet of

PARTY CHIEF: J. TERRY	R. WILLIAMS	DATE OF SURVEY: 9/20/2011	DESIGNATION: <b>S216</b>
--------------------------	-------------	------------------------------	-----------------------------



## LEGEND:

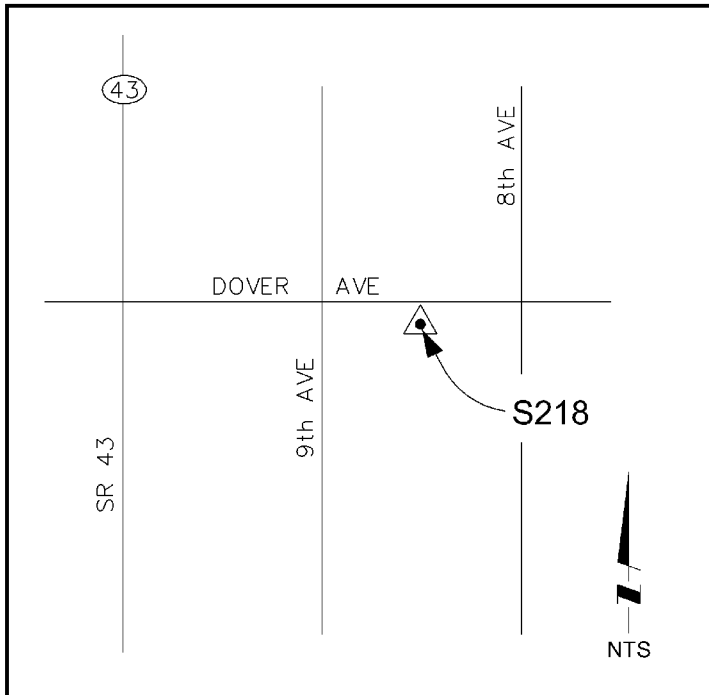
- CONTROL POINT, 2 1/2" BRONZE DISK IN 1" IRON PIPE IN 8" CONC. PIER, STAMPED "CHSRA S216 LS 4430 2011"
- REFERENCE POINT, SET 5/8" REBAR WITH PLASTIC PLUG, STAMPED "AE RP LS 4430" UNLESS OTHERWISE NOTED.

Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S216			4.90			2-1/2" BRONZE DISK
	4.32					
RP4			4.51			NAIL & TAG LS 4430
	4.97					
RP3			4.71			5/8" REBAR LS 4430
	4.65					
RP2			4.83			5/8" REBAR LS 4430
	4.57					
RP1			4.29			NAIL & TAG LS 4430
	4.73					
S216						2-1/2" BRONZE DISK



04/02/2014 - RFP No.: HSR 13-57

SURVEY CONTROL MONUMENT DATA SHEET Sheet of



Designation: **S218**

Date: 11/17/2011

Monument Description:  
2 1/2" Bronze Disk in 1" Iron  
Pipe in 8" Concrete Pier



**To Reach:**

In the County of Kings, from the intersection of Highway 43 and Dover Avenue, proceed east along Dover Avenue, 1.5 miles to the Monument on the right.

**HORIZONTAL**

DATUM: NAD 83 (NSRS2007)

EPOCH: 2007.00

**Geodetic Coordinates**

		Degrees	Minutes	Seconds	
Latitude	:	36°	24'	56.59568"	N
Longitude	:	119°	36'	35.59274"	W

**California Coordinate System (CCS83) US Survey Feet**

Zone 4	Northing	:	2035024.53		
	Easting	:	6382217.06	Comb. Factor:	0.99993989

**VERTICAL**

	US Survey Feet	Method
NAVD88:	264.28	Levels/GPS

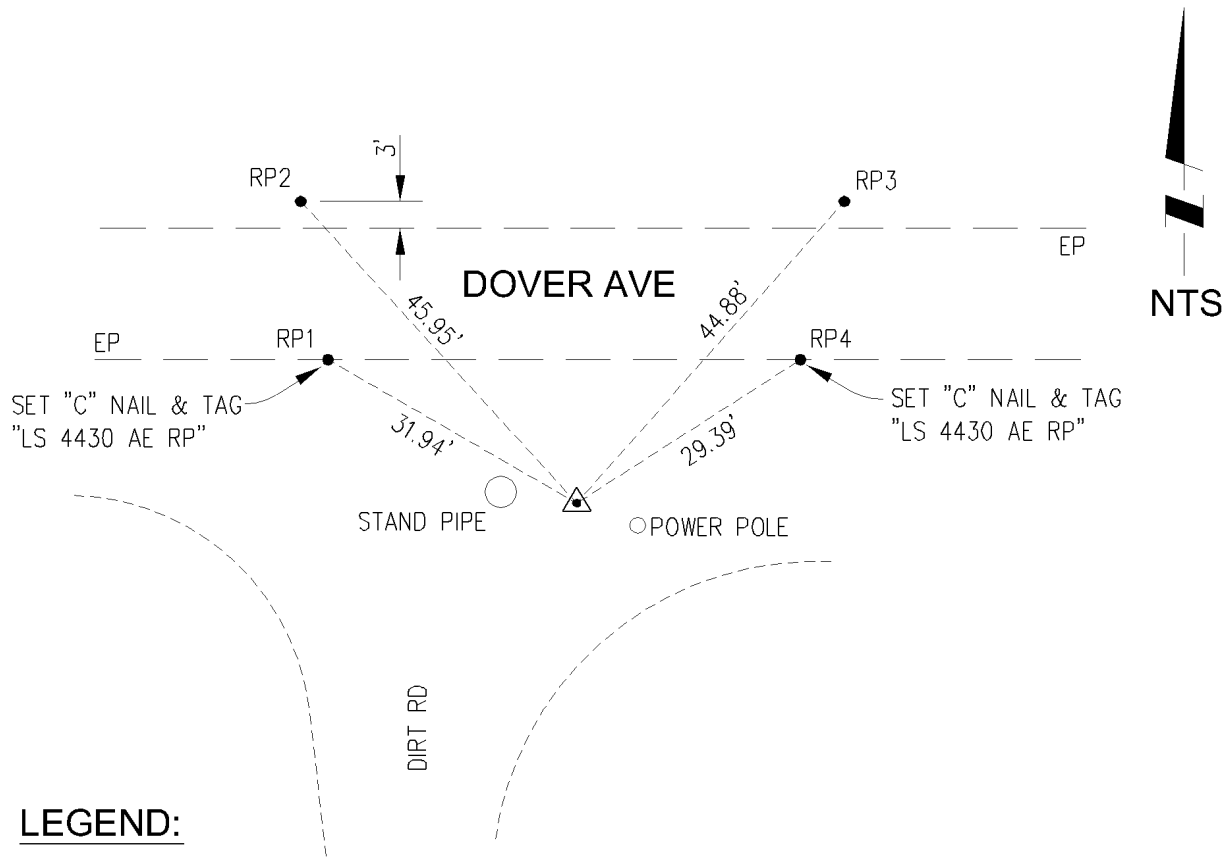
Vertical elevations were established from differential levels between primary control monuments.



# SURVEY CONTROL MONUMENT TIE SHEET

Sheet of

PARTY CHIEF: J. TERRY	R. WILLIAMS	DATE OF SURVEY: 9/20/2011	DESIGNATION: <b>S218</b>
--------------------------	-------------	------------------------------	-----------------------------



## LEGEND:

- CONTROL POINT, 2 1/2" BRONZE DISK IN 1" IRON PIPE IN 8" CONC. PIER, STAMPED "CHSRA S218 LS 4430 2011"
- REFERENCE POINT, SET 5/8" REBAR WITH PLASTIC PLUG, STAMPED "AE RP LS 4430" UNLESS OTHERWISE NOTED.

Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S218			5.20			2-1/2" BRONZE DISK
	4.84					
RP4			5.09			NAIL & TAG LS 4430
	5.25					
RP3			4.98			5/8" REBAR LS 4430
	4.88					
RP2			5.16			5/8" REBAR LS 4430
	5.05					
RP1			4.81			NAIL & TAG LS 4430
	5.22					
S218						2-1/2" BRONZE DISK



04/02/2014 - RFP No.: HSR 13-57



SURVEY CONTROL MONUMENT DATA SHEET Sheet of



Designation: **S220**

Date: 11/17/2011

Monument Description:  
2 1/2" Bronze Disk in 1" Iron  
Pipe in 8" Concrete Pier



**To Reach:**

In the County of Kings, from the intersection of Highway 43 and Elder Avenue, proceed east along Elder Avenue, 3.0 miles to 7<sup>th</sup> Avenue and the Monument on the left. Monument is on the northeast corner.

**HORIZONTAL**

DATUM: NAD 83 (NSRS2007)

EPOCH: 2007.00

**Geodetic Coordinates**

	Degrees	Minutes	Seconds	
Latitude :	36°	23'	11.93351"	N
Longitude :	119°	34'	58.36899"	W

**California Coordinate System (CCS83) US Survey Feet**

Zone 4	Northing :	2024391.61	
	Easting :	6390098.99	Comb. Factor: 0.99994188

**VERTICAL**

	US Survey Feet	Method
NAVD88:	264.00	Levels/GPS

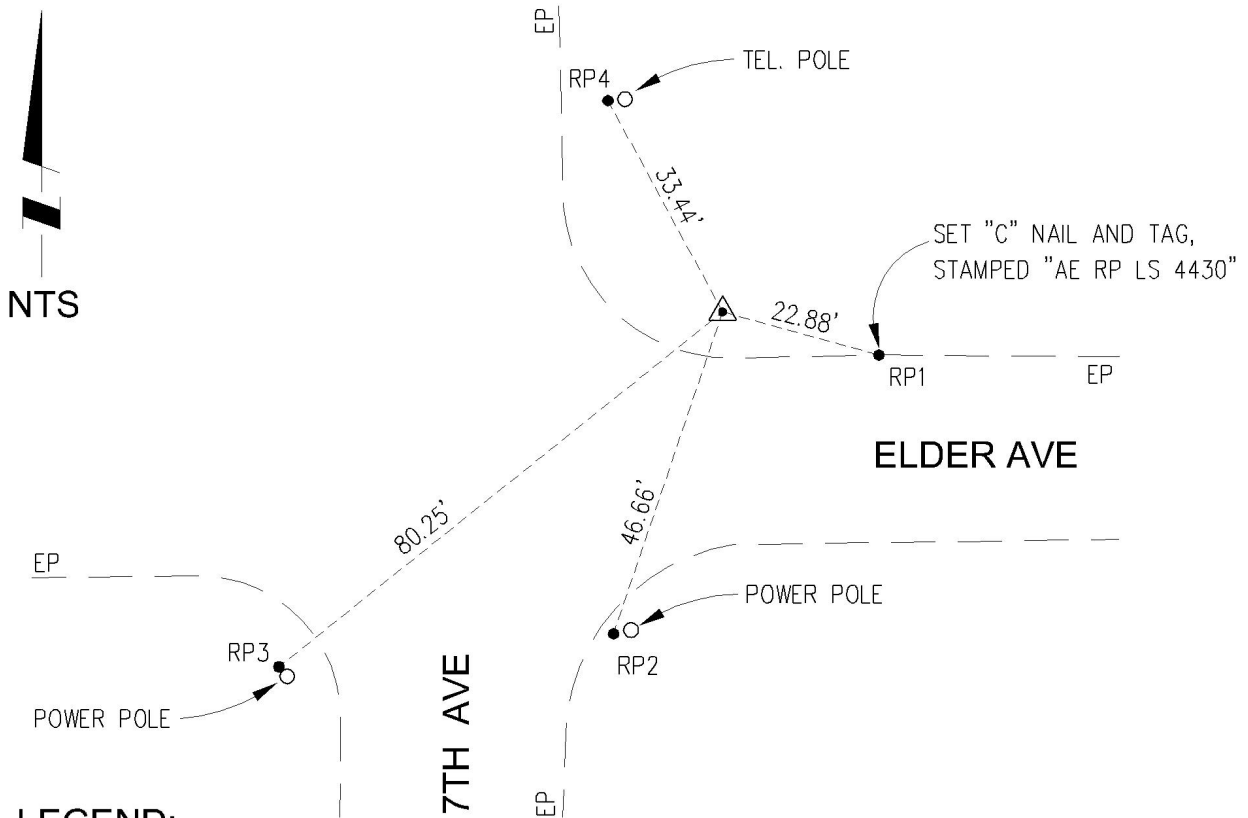
Vertical elevations were established from differential levels between primary control monuments.



# SURVEY CONTROL MONUMENT TIE SHEET

Sheet of

PARTY CHIEF: J. TERRY	R. WILLIAMS	DATE OF SURVEY: 9/20/2011	DESIGNATION: <b>S220</b>
--------------------------	-------------	------------------------------	-----------------------------



## LEGEND:

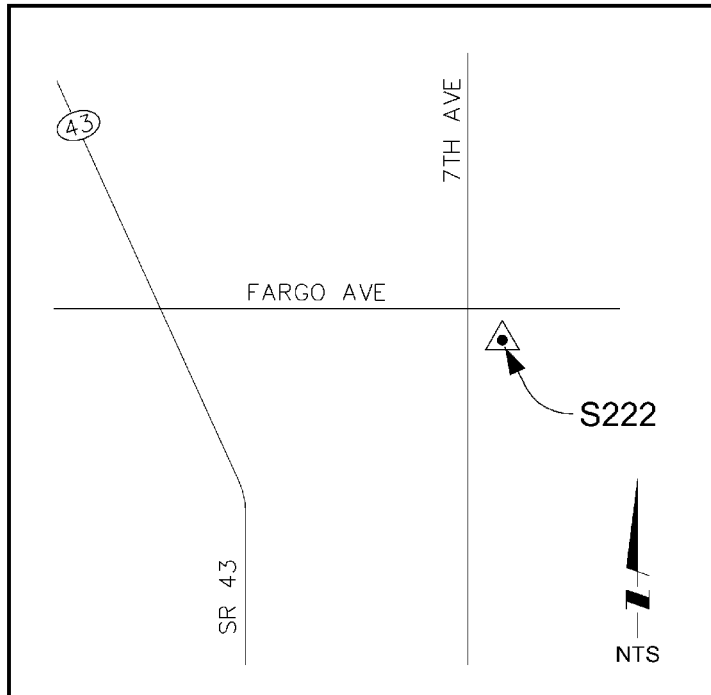
- CONTROL POINT, 2 1/2" BRONZE DISK IN 1" IRON PIPE IN 8" CONC. PIER, STAMPED "CHSRA S220 LS 4430 2011"
- REFERENCE POINT, SET 5/8" REBAR WITH PLASTIC PLUG, STAMPED "AE RP LS 4430" UNLESS OTHERWISE NOTED.

Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S220			4.85			2-1/2" BRONZE DISK
	4.74					
RP4			4.49			5/8" REBAR LS 4430
	4.83					
RP3			5.08			5/8" REBAR LS 4430
	4.92					
RP2			4.67			5/8" REBAR LS 4430
	4.59					
RP1			4.87			NAIL & TAG LS 4430
	4.88					
S220						2-1/2" BRONZE DISK



04/02/2014 - RFP No.: HSR 13-57

SURVEY CONTROL MONUMENT DATA SHEET Sheet of



Designation: **S222**

Date: 11/17/2011

Monument Description:  
2 1/2" Bronze Disk in 1" Iron  
Pipe in 8" Concrete Pier



**To Reach:**

In the County of Kings, from the intersection of Highway 43 and Fargo Avenue, proceed east along Fargo Avenue 2.1 miles to 7<sup>th</sup> Avenue and the Monument on the right.

**HORIZONTAL**

DATUM: NAD 83 (NSRS2007)

EPOCH: 2007.00

Geodetic Coordinates		Degrees	Minutes	Seconds	
Latitude	:	36°	21'	26.03983"	N
Longitude	:	119°	34'	57.77173"	W

**California Coordinate System (CCS83) US Survey Feet**

Zone 4	Northing	:	2013683.23	
	Easting	:	6390082.85	Comb. Factor: 0.99994446

**VERTICAL**

	US Survey Feet	Method
NAVD88:	257.77	Levels/GPS

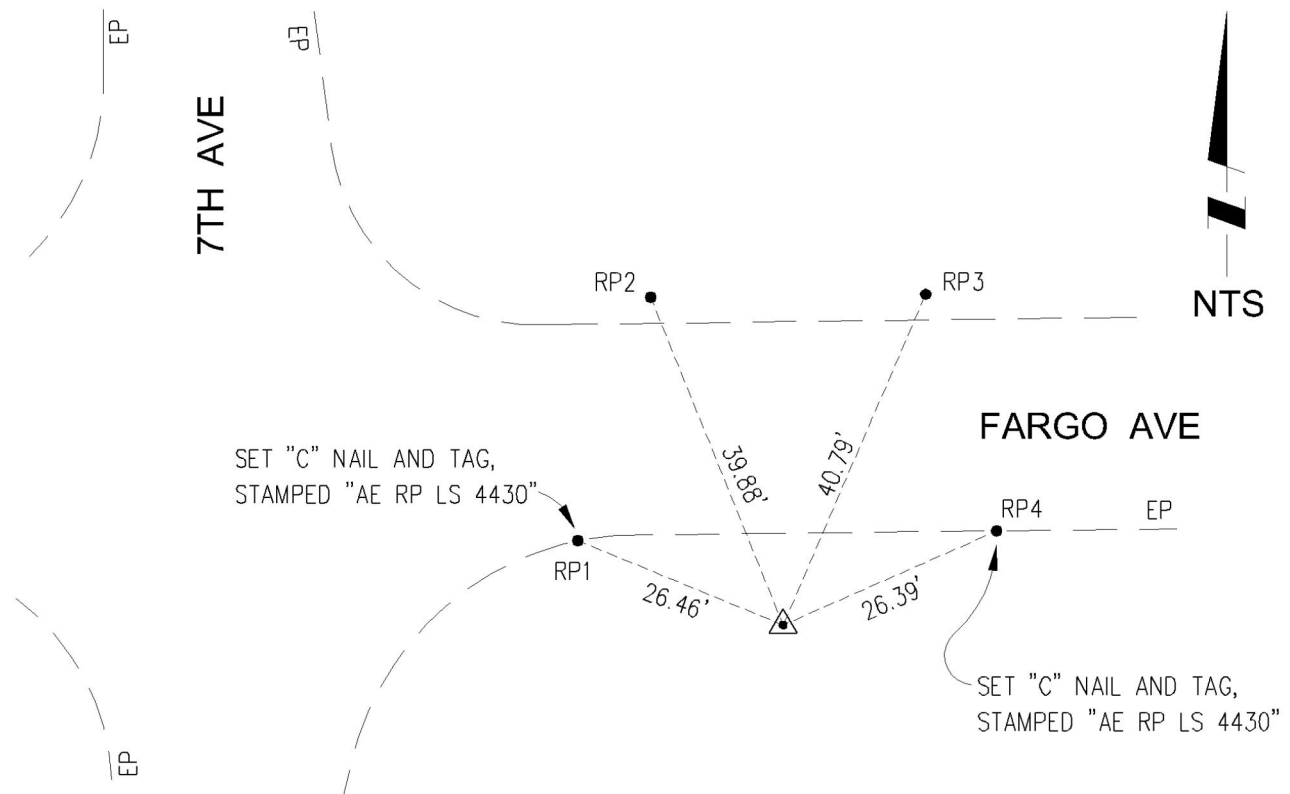
Vertical elevations were established from differential levels between primary control monuments.




# SURVEY CONTROL MONUMENT TIE SHEET

Sheet of

PARTY CHIEF: J. TERRY	R. WILLIAMS	DATE OF SURVEY: 9/20/2011	DESIGNATION: <b>S222</b>
--------------------------	-------------	------------------------------	-----------------------------



## LEGEND:

-  CONTROL POINT, 2 1/2" BRONZE DISK IN 1" IRON PIPE IN 8" CONC. PIER, STAMPED "CHSRA S222 LS 4430 2011"
- REFERENCE POINT, SET 5/8" REBAR WITH PLASTIC PLUG, STAMPED "AE RP LS 4430" UNLESS OTHERWISE NOTED.

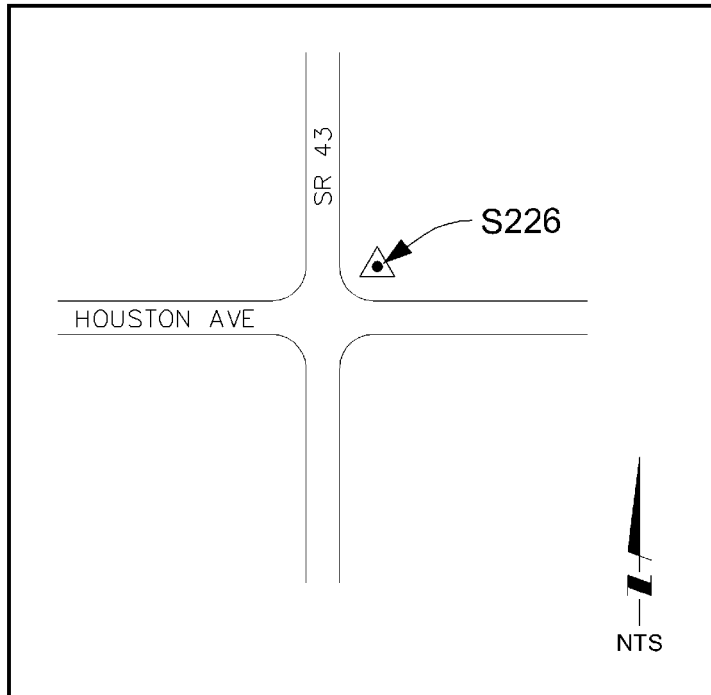
Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S222			5.34			2-1/2" BRONZE DISK
	4.38					
RP4			4.72			NAIL & TAG LS 4430
	5.02					
RP3			4.68			5/8" REBAR LS 4430
	4.52					
RP2			4.82			5/8" REBAR LS 4430
	4.69					
RP1			4.42			NAIL & TAG LS 4430
	5.37					
S222						2-1/2" BRONZE DISK



04/02/2014 - RFP No.: HSR 13-57



SURVEY CONTROL MONUMENT DATA SHEET Sheet of



Designation: **S226**

Date: 11/17/2011

Monument Description:  
2 1/2" Bronze Disk in 1" Iron  
Pipe in 8" Concrete Pier



**To Reach:**

In the County of Kings, at the intersection of Highway 43 and Houston Avenue. The Monument is located on the northeast corner.

**HORIZONTAL**

DATUM: NAD 83 (NSRS2007)

EPOCH: 2007.00

Geodetic Coordinates		Degrees	Minutes	Seconds	
Latitude	:	36°	17'	55.27514"	N
Longitude	:	119°	36'	02.17186"	W

California Coordinate System (CCS83) US Survey Feet

Zone 4	North	:	1992403.02	Comb. Factor: 0.99995085
	Easting	:	6384682.13	

**VERTICAL**

	US Survey Feet	Method
NAVD88:	235.49	Levels/GPS

Vertical elevations were established from differential levels between primary control monuments.

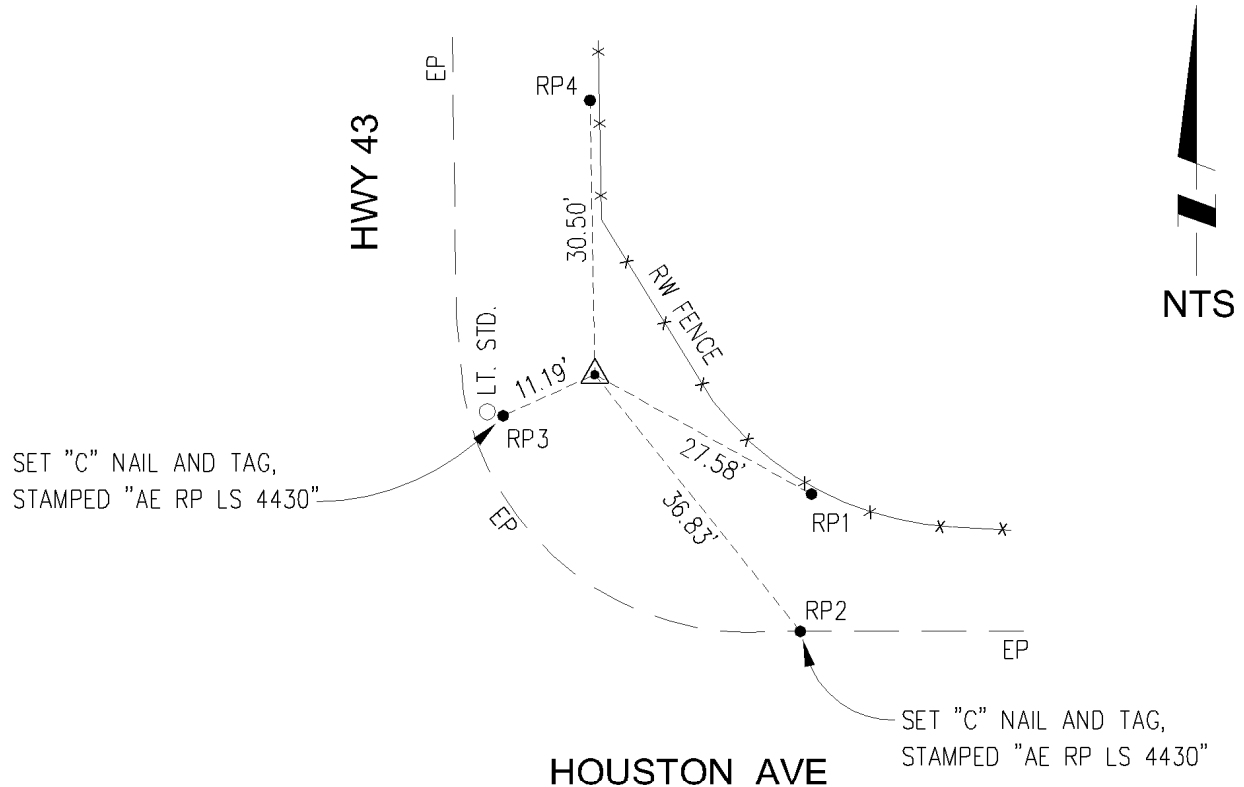


04/02/2014 - RFP No.: HSR 13-57

# SURVEY CONTROL MONUMENT TIE SHEET

Sheet of

PARTY CHIEF: J. TERRY	R. WILLIAMS	DATE OF SURVEY: 9/20/2011	DESIGNATION: <b>S226</b>
--------------------------	-------------	------------------------------	-----------------------------



## LEGEND:

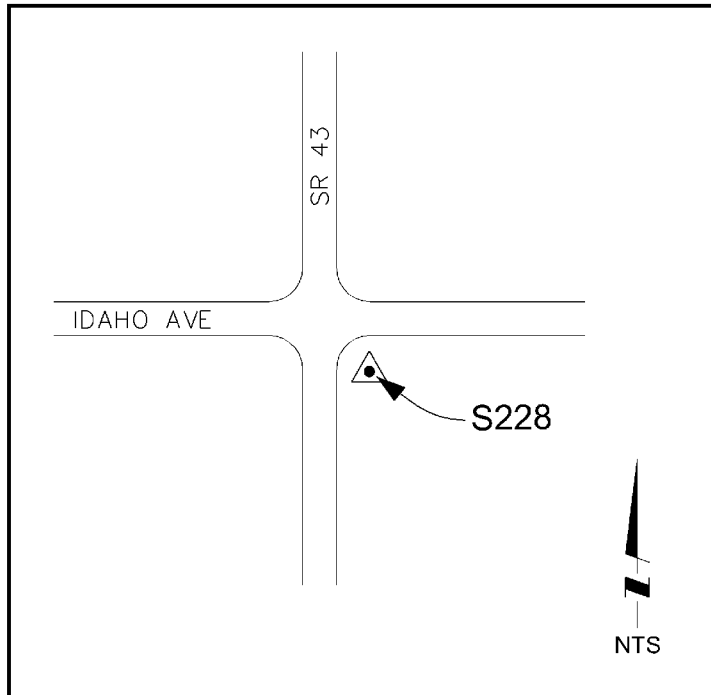
- △ CONTROL POINT, 2 ½" BRONZE DISK IN 1" IRON PIPE IN 8" CONC. PIER, STAMPED "CHSRA S226 LS 4430 2011"
- REFERENCE POINT, SET ⅝" REBAR WITH PLASTIC PLUG, STAMPED "AE RP LS 4430" UNLESS OTHERWISE NOTED.

Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S226			5.42			2-1/2" BRONZE DISK
	5.76					
RP4			5.49			5/8" REBAR LS 4430
	4.82					
RP3			5.08			NAIL & TAG LS 4430
	4.74					
RP2			4.44			NAIL & TAG LS 4430
	5.29					
RP1			5.47			5/8" REBAR LS 4430
	5.29					
S226						2-1/2" BRONZE DISK



04/02/2014 - RFP No.: HSR 13-57

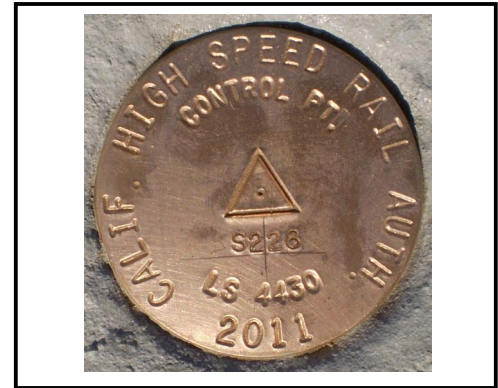
SURVEY CONTROL MONUMENT DATA SHEET Sheet of



Designation: **S228**

Date: 11/17/2011

Monument Description:  
2 1/2" Bronze Disk in 1" Iron  
Pipe in 8" Concrete Pier



**To Reach:**

In the County of Kings, at the intersection of Highway 43 and Idaho Avenue. The Monument is located on the southeast corner.

**HORIZONTAL**

DATUM: NAD 83 (NSRS2007)

EPOCH: 2007.00

**Geodetic Coordinates**

		Degrees	Minutes	Seconds	
Latitude	:	36°	16'	09.27212"	N
Longitude	:	119°	36'	02.02020"	W

**California Coordinate System (CCS83) US Survey Feet**

Zone 4	Northing	:	1981683.89	Comb. Factor: 0.99995440
	Easting	:	6384627.51	

**VERTICAL**

	US Survey Feet	Method
NAVD88:	225.52	Levels/GPS

Vertical elevations were established from differential levels between primary control monuments.

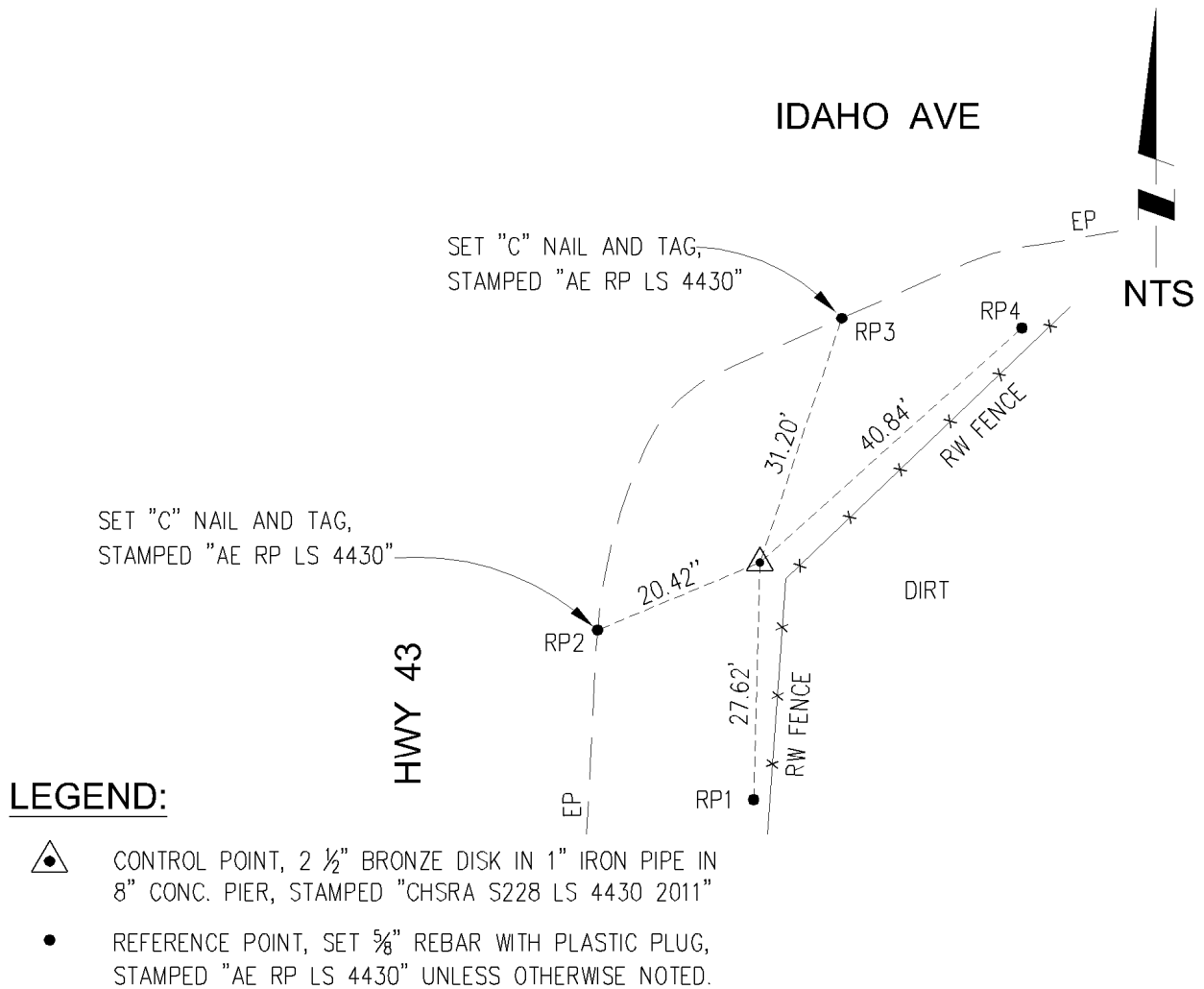


04/02/2014 - RFP No.: HSR 13-57

# SURVEY CONTROL MONUMENT TIE SHEET

Sheet of

PARTY CHIEF: J. TERRY	R. WILLIAMS	DATE OF SURVEY: 9/20/2011	DESIGNATION: <b>S228</b>
--------------------------	-------------	------------------------------	-----------------------------



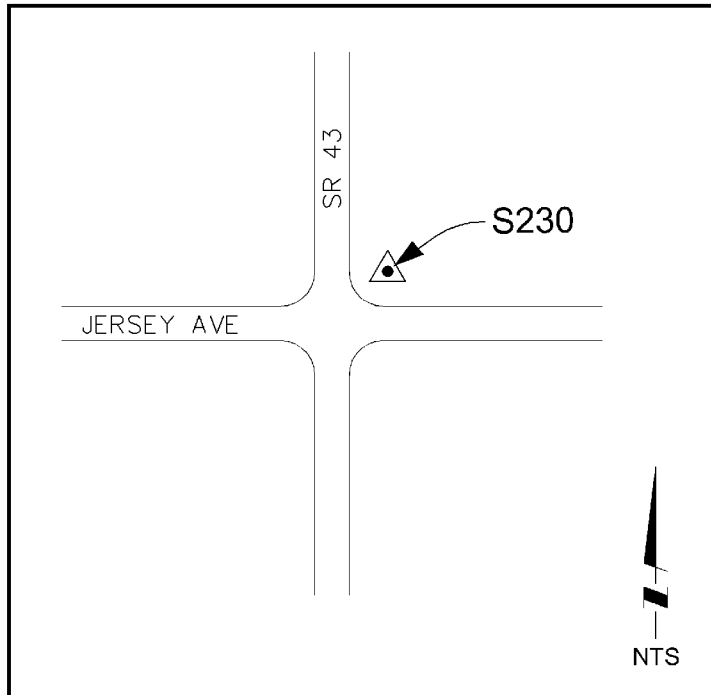
Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S228			5.70			2-1/2" BRONZE DISK
	6.38					
RP4			6.13			5/8" REBAR LS 4430
	4.88					
RP3			5.08			NAIL & TAG LS 4430
	4.51					
RP2			4.23			NAIL & TAG LS 4430
	5.89					
RP1			6.11			5/8" REBAR LS 4430
	5.59					
S228						2-1/2" BRONZE DISK



04/02/2014 - RFP No.: HSR 13-57



SURVEY CONTROL MONUMENT DATA SHEET Sheet of



Designation: **S230**

Date: 11/17/2011

Monument Description:  
2 1/2" Bronze Disk in 1" Iron  
Pipe in 8" Concrete Pier



**To Reach:**

In the County of Kings, at the intersection of Highway 43 and Jersey Avenue. The Monument is located on the northeast corner.

**HORIZONTAL**

DATUM: NAD 83 (NSRS2007)

EPOCH: 2007.00

Geodetic Coordinates		Degrees	Minutes	Seconds	
Latitude	:	36°	14'	26.22155"	N
Longitude	:	119°	36'	02.19242"	W

California Coordinate System (CCS83) US Survey Feet

Zone 4	Northing	:	1971263.49	Comb. Factor: 0.99995804
	Easting	:	6384548.24	

**VERTICAL**

	US Survey Feet	Method
NAVD88:	216.85	Levels/GPS

Vertical elevations were established from differential levels between primary control monuments.

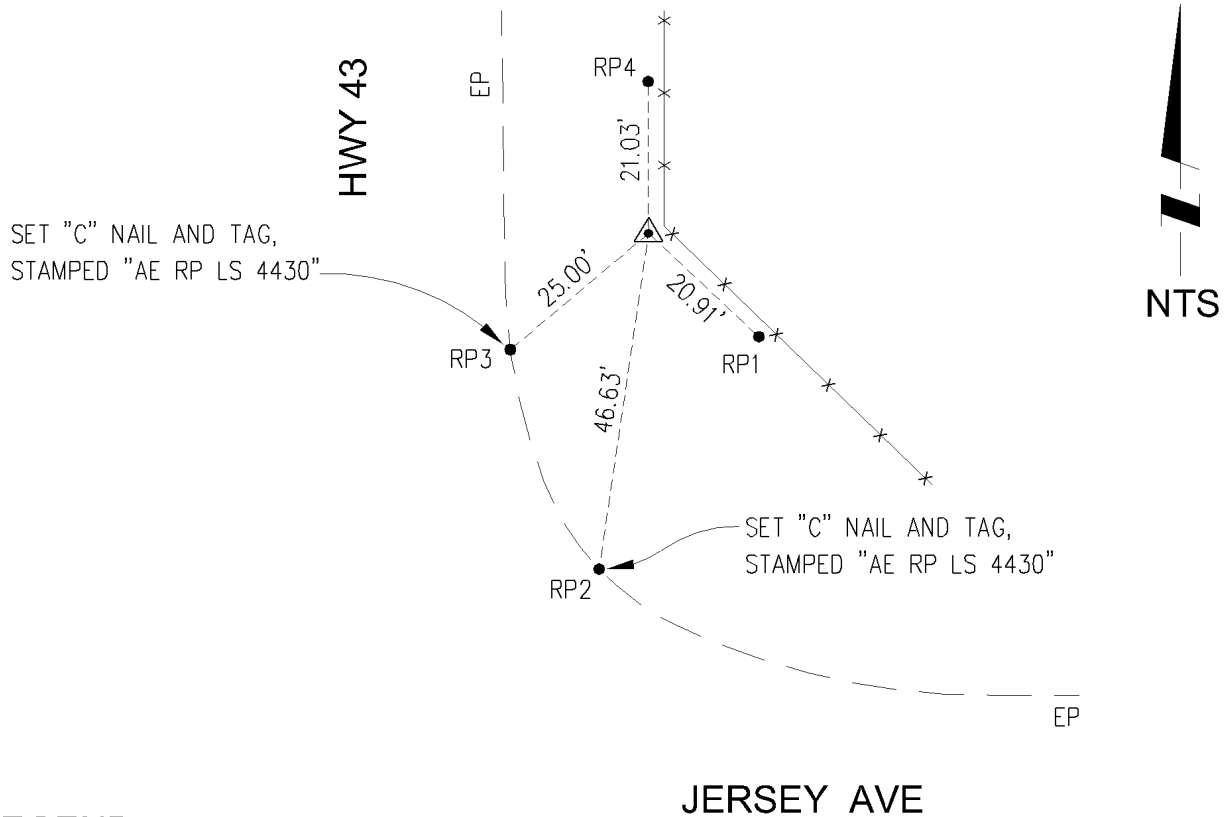


04/02/2014 - RFP No.: HSR 13-57

# SURVEY CONTROL MONUMENT TIE SHEET

Sheet of

PARTY CHIEF: J. TERRY	R. WILLIAMS	DATE OF SURVEY: 9/20/2011	DESIGNATION: <b>S230</b>
--------------------------	-------------	------------------------------	-----------------------------



## LEGEND:

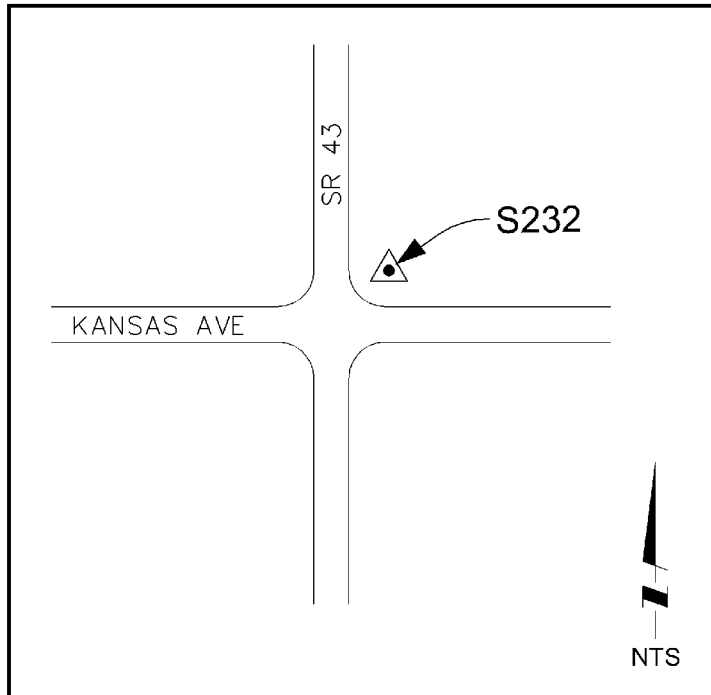
- △ CONTROL POINT, 2 1/2" BRONZE DISK IN 1" IRON PIPE IN 8" CONC. PIER, STAMPED "CHSRA S230 LS 4430 2011"
- REFERENCE POINT, SET 5/8" REBAR WITH PLASTIC PLUG, STAMPED "AE RP LS 4430" UNLESS OTHERWISE NOTED.

Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S230			5.69			2-1/2" BRONZE DISK
	5.72					
RP4			5.51			5/8" REBAR LS 4430
	2.97					
RP3			3.28			NAIL & TAG LS 4430
	3.59					
RP2			3.32			NAIL & TAG LS 4430
	5.78					
RP1			5.98			5/8" REBAR LS 4430
	5.72					
S230						2-1/2" BRONZE DISK



04/02/2014 - RFP No.: HSR 13-57

SURVEY CONTROL MONUMENT DATA SHEET Sheet of



Designation: **S232**

Date: 11/17/2011

Monument Description:  
2 1/2" Bronze Disk in 1" Iron  
Pipe in 8" Concrete Pier



**To Reach:**

In the County of Kings, at the intersection of Highway 43 and Kansas Avenue. The Monument is located on the northeast corner.

**HORIZONTAL**

DATUM: NAD 83 (NSRS2007)

EPOCH: 2007.00

**Geodetic Coordinates**

		Degrees	Minutes	Seconds	
Latitude	:	36°	12'	39.85862"	N
Longitude	:	119°	36'	01.41436"	W

**California Coordinate System (CCS83) US Survey Feet**

Zone 4	Northing	:	1960507.68	Comb. Factor: 0.99996199
	Easting	:	6384544.74	

**VERTICAL**

	US Survey Feet	Method
NAVD88:	209.58	Levels/GPS

Vertical elevations were established from differential levels between primary control monuments.



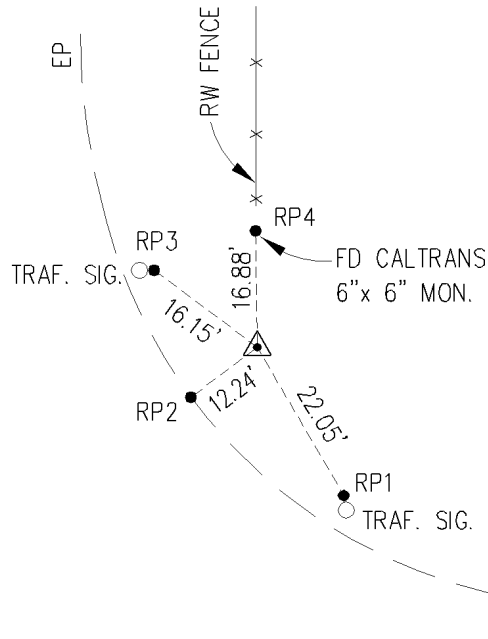
04/02/2014 - RFP No.: HSR 13-57

# SURVEY CONTROL MONUMENT TIE SHEET

Sheet of

PARTY CHIEF: J. TERRY	R. WILLIAMS	DATE OF SURVEY: 9/20/2011	DESIGNATION: <b>S232</b>
--------------------------	-------------	------------------------------	-----------------------------

HWY 43



## LEGEND:

- CONTROL POINT, 2 1/2" BRONZE DISK IN 1" IRON PIPE IN 8" CONC. PIER, STAMPED "CHSRA S232 LS 4430 2011"
- REFERENCE POINT, SET "C" NAIL AND TAG, STAMPED "AE RP LS 4430" UNLESS OTHERWISE NOTED.

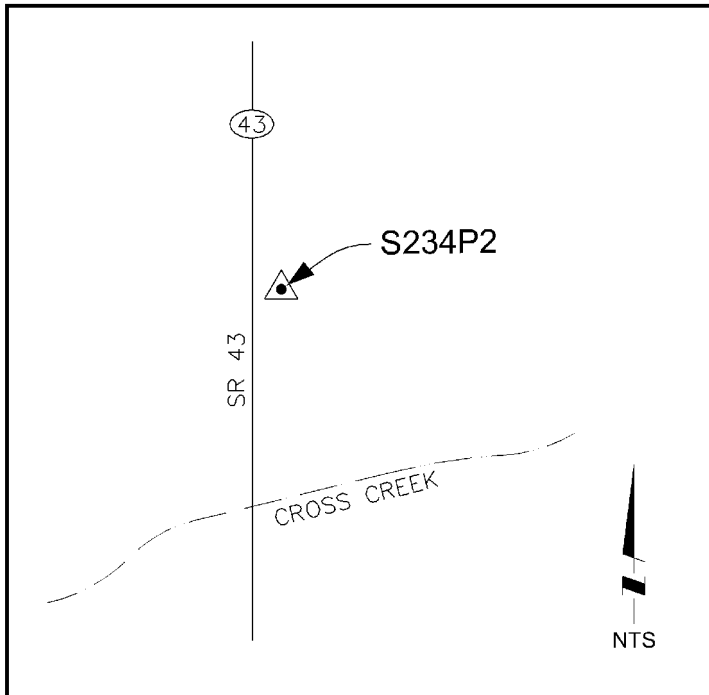
Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S232			5.72			2-1/2" BRONZE DISK
	6.36					
RP4			6.13			CALTRANS 6 X 6 MON
	4.57					
RP3			4.81			NAIL & TAG LS 4430
	5.02					
RP2			4.74			NAIL & TAG LS 4430
	5.44					
RP1			5.66			NAIL & TAG LS 4430
	5.67					
S232						2-1/2" BRONZE DISK



04/02/2014 - RFP No.: HSR 13-57



SURVEY CONTROL MONUMENT DATA SHEET Sheet of



Designation: **S234P2**

Date: 11/17/2011

Monument Description:  
2 1/2" Bronze Disk in 1" Iron  
Pipe in 8" Concrete Pier



**To Reach:**

In the County of Kings, from the intersection of Highway 43 and Cross Creek, proceed north along Highway 43, 0.4 mile to the Monument on the right. (Street Addresss 20275)

**HORIZONTAL**

DATUM: NAD 83 (NSRS2007)

EPOCH: 2007.00

**Geodetic Coordinates**

		Degrees	Minutes	Seconds	
Latitude	:	36°	10'	55.72328"	N
Longitude	:	119°	36'	00.60149"	W

**California Coordinate System (CCS83) US Survey Feet**

Zone 4	Northing	:	1949977.11	Comb. Factor: 0.99996628
	Easting	:	6384545.55	

**VERTICAL**

	US Survey Feet	Method
NAVD88:	198.59	GPS

The orthometric height was determined by two, one-hour GPS observations, using GEOID09 and CGPS ellipsoid heights. Equipment used included fixed height 2.000 meter rods, Trimble 5700 receivers and matching Zephyr Geodetic antennas.

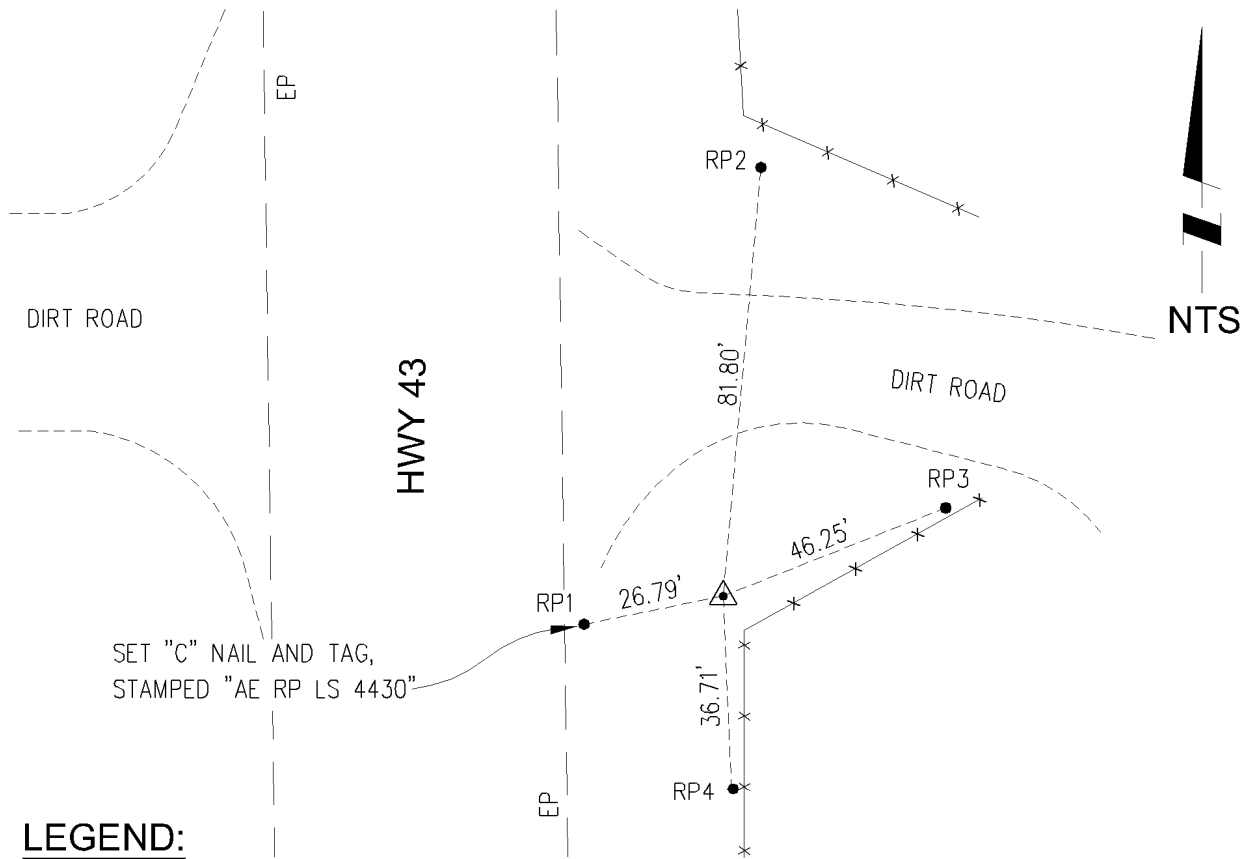


04/02/2014 - RFP No.: HSR 13-57

# SURVEY CONTROL MONUMENT TIE SHEET

Sheet of

PARTY CHIEF: J. TERRY	R. WILLIAMS	DATE OF SURVEY: 9/20/2011	DESIGNATION: <b>S234P2</b>
--------------------------	-------------	------------------------------	-------------------------------



## LEGEND:

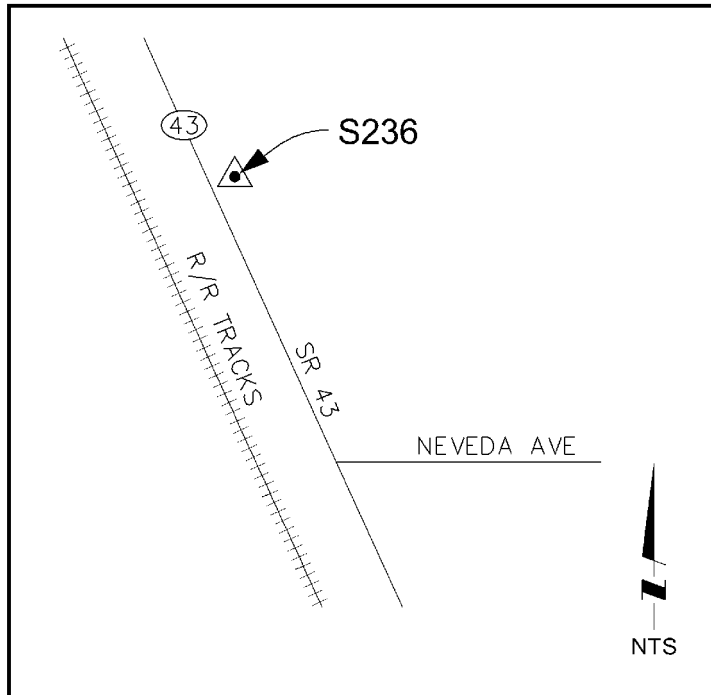
- △ CONTROL POINT, 2 1/2" BRONZE DISK IN 1" IRON PIPE IN 8" CONC. PIER, STAMPED "CHSRA S234P2 LS 4430 2011"
- REFERENCE POINT, SET 5/8" REBAR WITH PLASTIC PLUG, STAMPED "AE RP LS 4430" UNLESS OTHERWISE NOTED.

Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S234P2			6.59			2-1/2" BRONZE DISK
	7.09					
RP4			7.39			5/8" REBAR LS 4430
	7.19					
RP3			6.96			5/8" REBAR LS 4430
	6.38					
RP2			6.10			5/8" REBAR LS 4430
	3.22					
RP1			3.50			NAIL & TAG LS 4430
	6.66					
S234P2						2-1/2" BRONZE DISK



04/02/2014 - RFP No.: HSR 13-57

# SURVEY CONTROL MONUMENT DATA SHEET Sheet      of



**Designation:** **S236**

**Date:** 11/17/2011

**Monument Description:**  
**2 ½" Bronze Disk in 1" Iron**  
**Pipe in 8" Concrete Pier**



**To Reach:**

In the County of Kings, from the intersection of Highway 43 and Nevada Avenue, proceed north along Highway 43, 1.1 miles to the Monument on the right. Monument is located at the north side of a gate.

## HORIZONTAL

**DATUM:** NAD 83 (NSRS2007)

**EPOCH:** 2007.00

Geodetic Coordinates		Degrees	Minutes	Seconds	
Latitude	:	36°	09'	08.88994"	N
Longitude	:	119°	35'	43.92735"	W

**California Coordinate System (CCS83) US Survey Feet**

<b>Zone 4</b>	<b>Northing</b>	:	1939165.64	
	<b>Easting</b>	:	6385845.45	<b>Comb. Factor:</b> 0.99997019

## VERTICAL

	US Survey Feet	Method
<b>NAVD88:</b>	203.33	Levels/GPS

Vertical elevations were established from differential levels between primary control monuments.



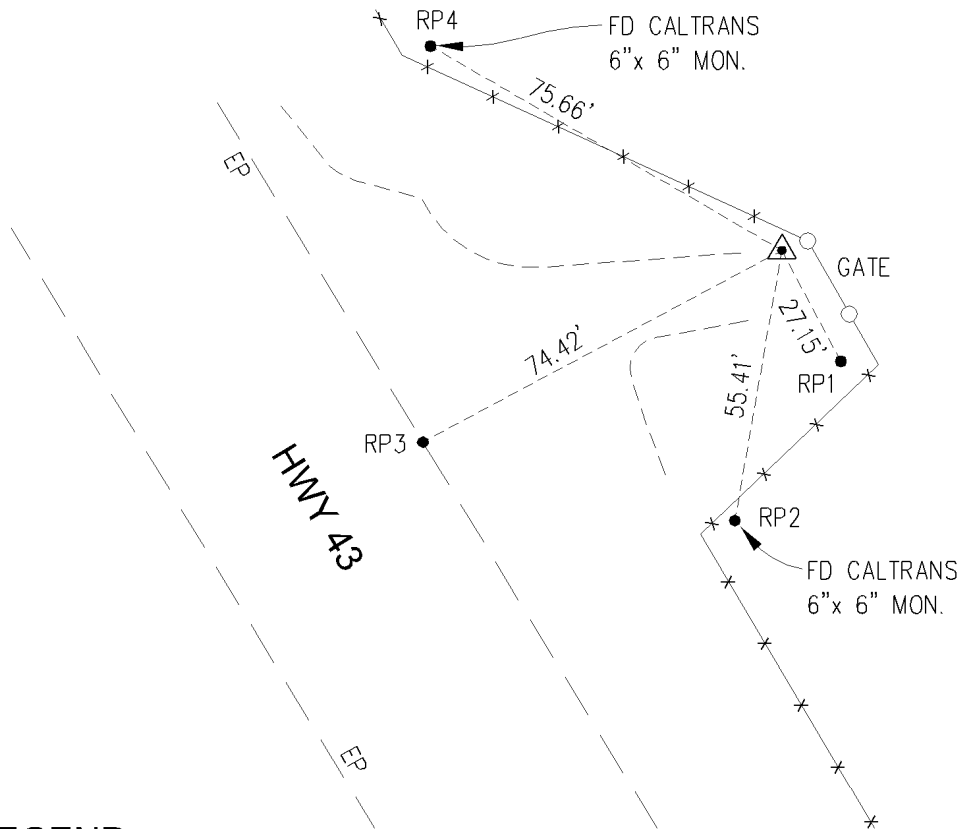
04/02/2014 - RFP No.: HSR 13-57

T:\13259DCAHST\SUR\DWG\CONTROL\_MONUMENTS\_TYPICAL\DATASHEETS\MDS S236.DOC

# SURVEY CONTROL MONUMENT TIE SHEET

Sheet of

PARTY CHIEF: J. TERRY	R. WILLIAMS	DATE OF SURVEY: 9/20/2011	DESIGNATION: <b>S236</b>
--------------------------	-------------	------------------------------	-----------------------------



## LEGEND:

- CONTROL POINT, 2 1/2" BRONZE DISK IN 1" IRON PIPE IN 8" CONC. PIER, STAMPED "CHSRA S236 LS 4430 2011"
- REFERENCE POINT, SET "C" NAIL AND TAG, STAMPED "AE RP LS 4430" UNLESS OTHERWISE NOTED.

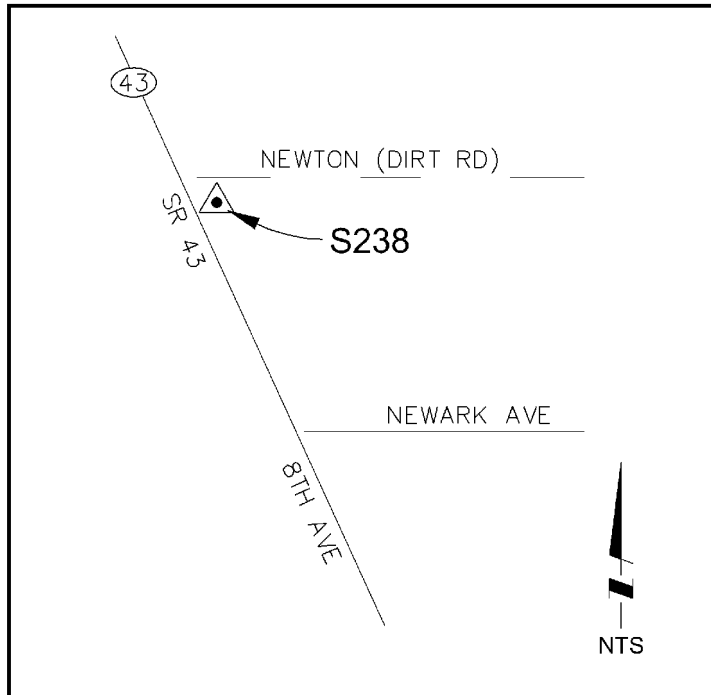
Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S236			2.13			2-1/2" BRONZE DISK
	9.02					
RP4			8.76			CALTRANS 6 X 6 MON
	7.00					
RP3			7.23			NAIL & TAG LS 4430
	9.36					
RP2			9.09			CALTRANS 6 X 6 MON
	0.92					
RP1			1.18			NAIL & TAG LS 4430
	2.09					
S236						2-1/2" BRONZE DISK



04/02/2014 - RFP No.: HSR 13-57



**SURVEY CONTROL MONUMENT DATA SHEET**      Sheet      of



**Designation: S238**

**Date: 11/17/2011**

**Monument Description:**  
**2 1/2" Bronze Disk in 1" Iron**  
**Pipe in 8" Concrete Pier**



**To Reach:**

In the City of Cocoran, County of Kings, from the intersection of Highway 43 and Newark Avenue, proceed north along Highway 43, 0.4 mile to the Monument on the right. Monument is located at the prolongation of Newton Avenue.

**HORIZONTAL**

**DATUM: NAD 83 (NSRS2007)**

**EPOCH: 2007.00**

Geodetic Coordinates		Degrees	Minutes	Seconds	
Latitude	:	36°	07'	24.06081"	N
Longitude	:	119°	34'	27.92043"	W

**California Coordinate System (CCS83) US Survey Feet**

Zone 4	Northing	:	1928527.37	Comb. Factor: 0.99997489
	Easting	:	6392015.21	

**VERTICAL**

	US Survey Feet	Method
NAVD88:	195.15	Levels/GPS

Vertical elevations were established from differential levels between primary control monuments.

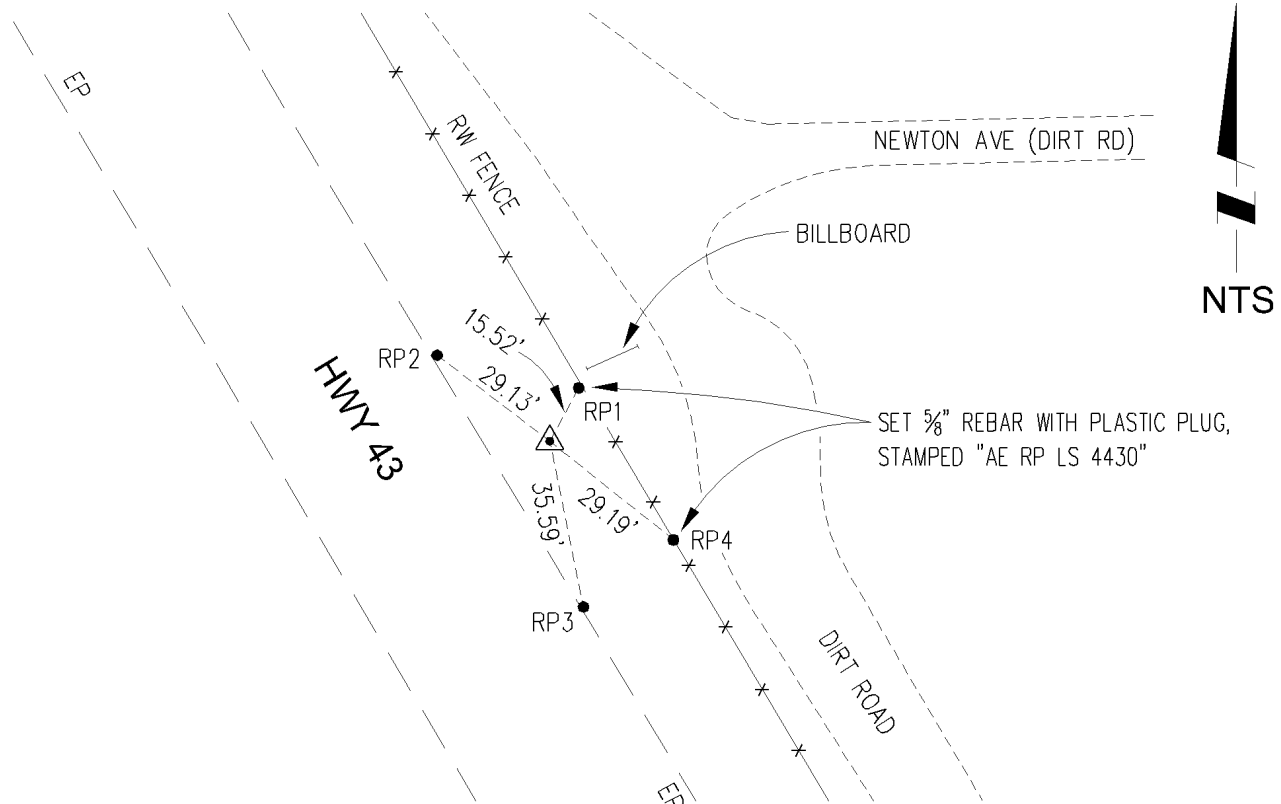


04/02/2014 - RFP No.: HSR 13-57

# SURVEY CONTROL MONUMENT TIE SHEET

Sheet of

PARTY CHIEF: J. TERRY	R. WILLIAMS	DATE OF SURVEY: 9/20/2011	DESIGNATION: <b>S238</b>
--------------------------	-------------	------------------------------	-----------------------------



## LEGEND:

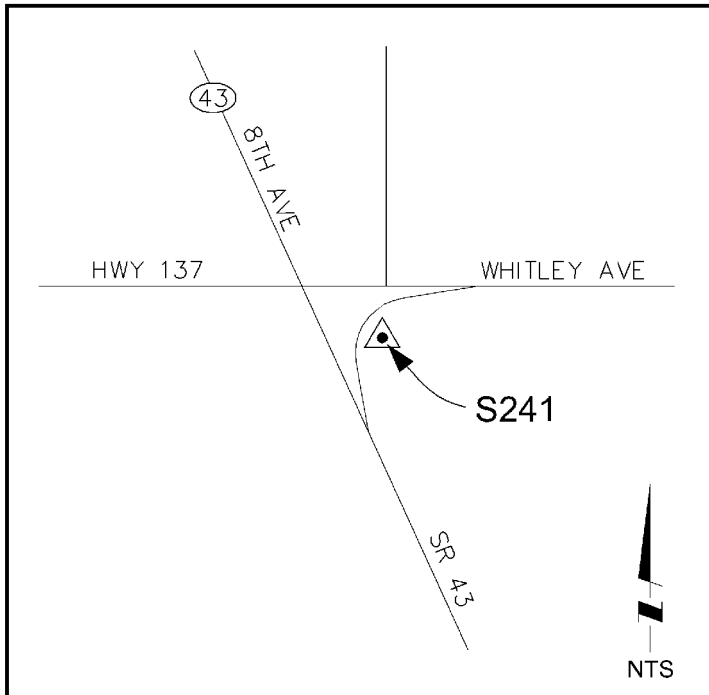
- △ CONTROL POINT, 2 1/2" BRONZE DISK IN 1" IRON PIPE IN 8" CONC. PIER, STAMPED "CHSRA S238 LS 4430 2011"
- REFERENCE POINT, SET "C" NAIL AND TAG, STAMPED "AE RP LS 4430" UNLESS OTHERWISE NOTED.

Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S238			7.20			2-1/2" BRONZE DISK
	7.55					
RP4			7.12			5/8" REBAR LS 4430
	4.51					
RP3			4.84			NAIL & TAG LS 4430
	4.81					
RP2			4.09			NAIL & TAG LS 4430
	5.78					
RP1			6.48			5/8" REBAR LS 4430
	7.08					
S238						2-1/2" BRONZE DISK



04/02/2014 - RFP No.: HSR 13-57

**SURVEY CONTROL MONUMENT DATA SHEET** Sheet      of



**Designation: S241**

**Date: 11/17/2011**

**Monument Description:**  
**2 1/2" Bronze Disk in 1" Iron**  
**Pipe in 8" Concrete Pier**



**To Reach:**

In the County of Kings, at the intersection of Highway 43 and Highway 137, the Monument is located at the southeast corner.

**HORIZONTAL**

**DATUM: NAD 83 (NSRS2007)**

**EPOCH: 2007.00**

Geodetic Coordinates		Degrees	Minutes	Seconds	
Latitude	:	36°	05'	52.16050"	N
Longitude	:	119°	32'	43.04869"	W

**California Coordinate System (CCS83) US Survey Feet**

<b>Zone 4</b>	<b>Northing</b>	:	1919184.25		
	<b>Easting</b>	:	6400566.00	<b>Comb. Factor:</b>	0.99997874

**VERTICAL**

	US Survey Feet	Method
<b>NAVD88:</b>	197.91	Levels/GPS

Vertical elevations were established from differential levels between primary control monuments.

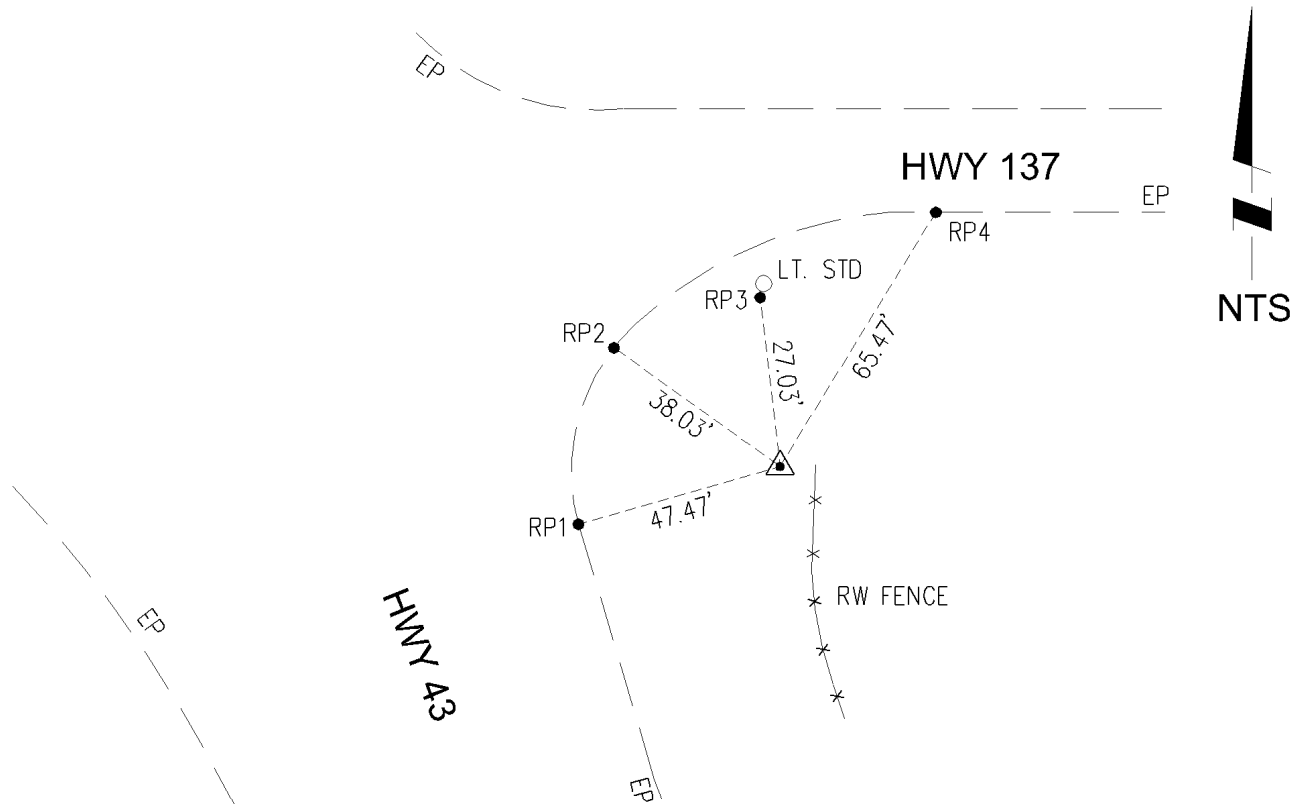


04/02/2014 - RFP No.: HSR 13-57

# SURVEY CONTROL MONUMENT TIE SHEET

Sheet of

PARTY CHIEF: J. TERRY	R. WILLIAMS	DATE OF SURVEY: 9/20/2011	DESIGNATION: <b>S241</b>
--------------------------	-------------	------------------------------	-----------------------------



## LEGEND:

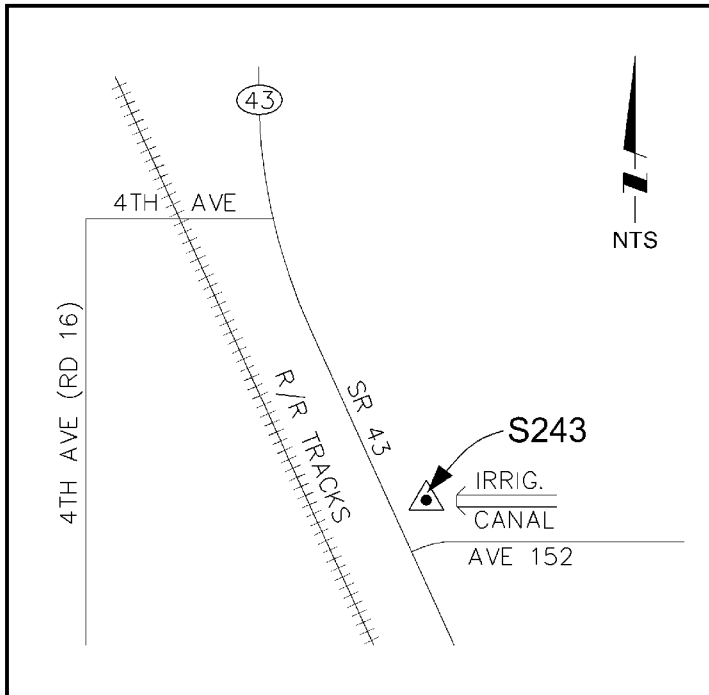
- △ CONTROL POINT, 2 1/2" BRONZE DISK IN 1" IRON PIPE IN 8" CONC. PIER, STAMPED "CHSRA S241 LS 4430 2011"
- REFERENCE POINT, SET "C" NAIL AND TAG, STAMPED "AE RP LS 4430" UNLESS OTHERWISE NOTED.

Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S241			5.49			2-1/2" BRONZE DISK
	5.64					
RP4			5.92			NAIL & TAG LS 4430
	4.74					
RP3			4.45			NAIL & TAG LS 4430
	4.30					
RP2			4.54			NAIL & TAG LS 4430
	4.10					
RP1			3.87			NAIL & TAG LS 4430
	5.49					
S241						2-1/2" BRONZE DISK



04/02/2014 - RFP No.: HSR 13-57

SURVEY CONTROL MONUMENT DATA SHEET Sheet of



Designation: **S243**

Date: 11/17/2011

Monument Description:  
2 1/2" Bronze Disk in 1" Iron  
Pipe in 8" Concrete Pier



**To Reach:**

In the County of Tulare, from the intersection of Highway 43 and 4<sup>th</sup> Avenue, proceed south along Highway 43, 0.4 mile to the Monument on the left. Monument is at the west end of an irrigation canal.

**HORIZONTAL**

DATUM: NAD 83 (NSRS2007)

EPOCH: 2007.00

**Geodetic Coordinates**

	Degrees	Minutes	Seconds	
Latitude :	36°	03'	55.30113"	N
Longitude :	119°	31'	54.81931"	W

**California Coordinate System (CCS83) US Survey Feet**

Zone 4	Northing :	1907345.23	
	Easting :	6404458.53	Comb. Factor: 0.99998421

**VERTICAL**

	US Survey Feet	Method
NAVD88:	195.39	Levels/GPS

Vertical elevations were established from differential levels between primary control monuments.



04/02/2014 - RFP No.: HSR 13-57

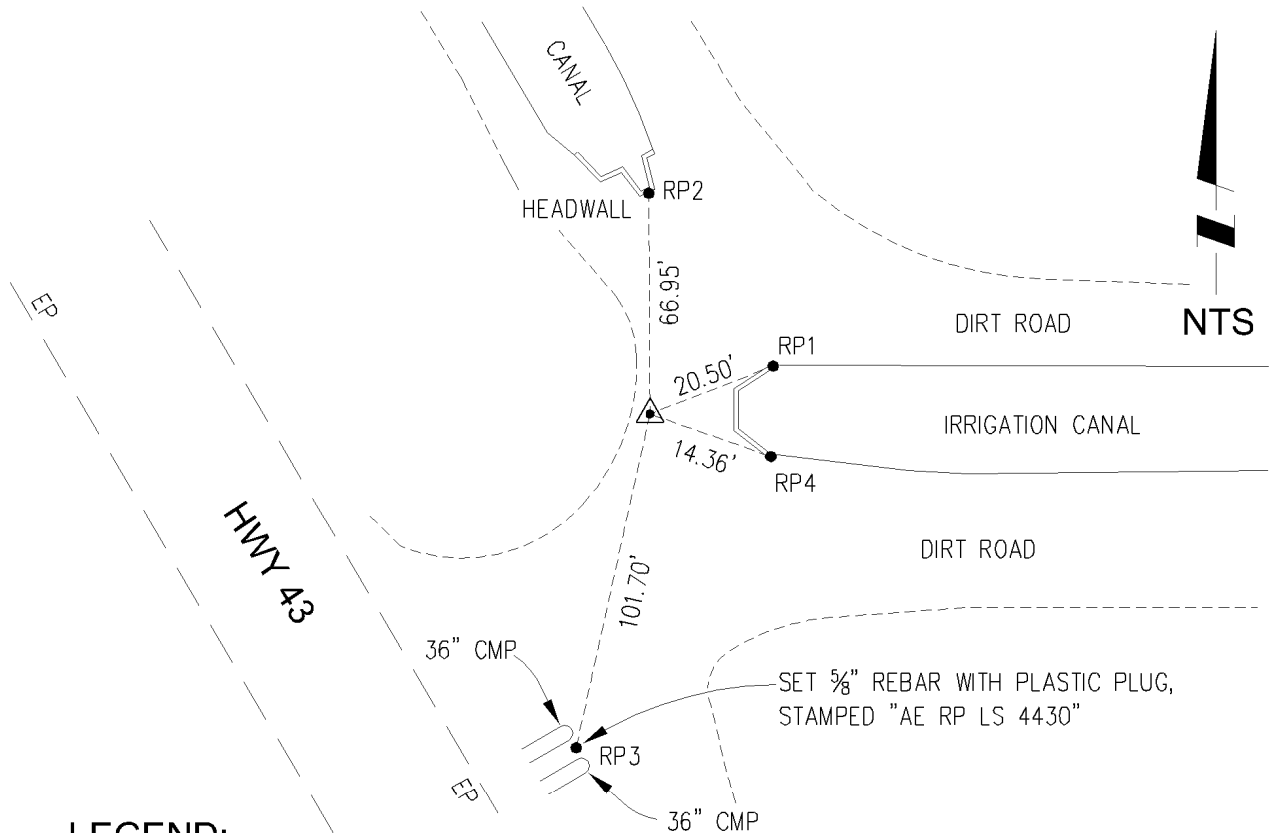
T:\13259DCAHST\SUR\DWG\CONTROL\_MONUMENTS\_TYPICAL\DATASHEETS\MDS S243.DOC



# SURVEY CONTROL MONUMENT TIE SHEET

Sheet of

PARTY CHIEF: J. TERRY	R. WILLIAMS	DATE OF SURVEY: 9/20/2011	DESIGNATION: <b>S243</b>
--------------------------	-------------	------------------------------	-----------------------------



## LEGEND:

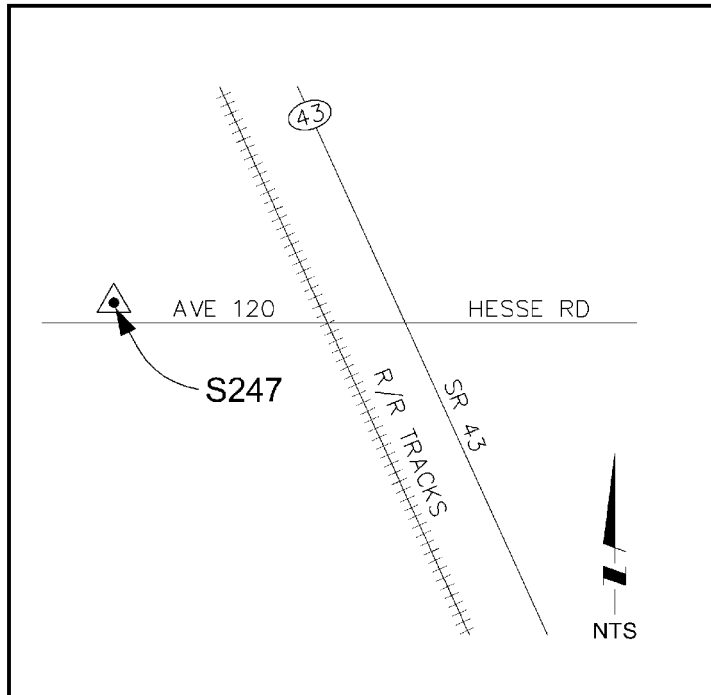
- CONTROL POINT, 2 1/2" BRONZE DISK IN 1" IRON PIPE IN 8" CONC. PIER, STAMPED "CHSRA S243 LS 4430 2011"
- REFERENCE POINT, SET "C" NAIL AND TAG, STAMPED "AE RP LS 4430" UNLESS OTHERWISE NOTED.

Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S243			5.46			2-1/2" BRONZE DISK
	4.80					
RP4			4.56			NAIL & TAG LS 4430
	4.77					
RP3			4.98			5/8" REBAR LS 4430
	4.92					
RP2			4.56			NAIL & TAG LS 4430
	4.46					
RP1			4.68			NAIL & TAG LS 4430
	5.29					
S243						2-1/2" BRONZE DISK



04/02/2014 - RFP No.: HSR 13-57

SURVEY CONTROL MONUMENT DATA SHEET Sheet of



Designation: **S247**

Date: 11/17/2011

Monument Description:  
2 1/2" Bronze Disk in 1" Iron  
Pipe in 8" Concrete Pier



**To Reach:**

In the County of Tulare, from the intersection of Highway 43 and Avenue 120, proceed west on Avenue 120, 0.3 mile to the Monument on the right.

**HORIZONTAL**

DATUM: NAD 83 (NSRS2007)

EPOCH: 2007.00

**Geodetic Coordinates**

		Degrees	Minutes	Seconds	
Latitude	:	36°	00'	26.27814"	N
Longitude	:	119°	29'	46.40359"	W

**California Coordinate System (CCS83) US Survey Feet**

Zone 4	Northing	:	1886152.34	Comb. Factor: 0.99999477
	Easting	:	6414892.25	

**VERTICAL**

	US Survey Feet	Method
NAVD88:	191.14	Levels/GPS

Vertical elevations were established from differential levels between primary control monuments.

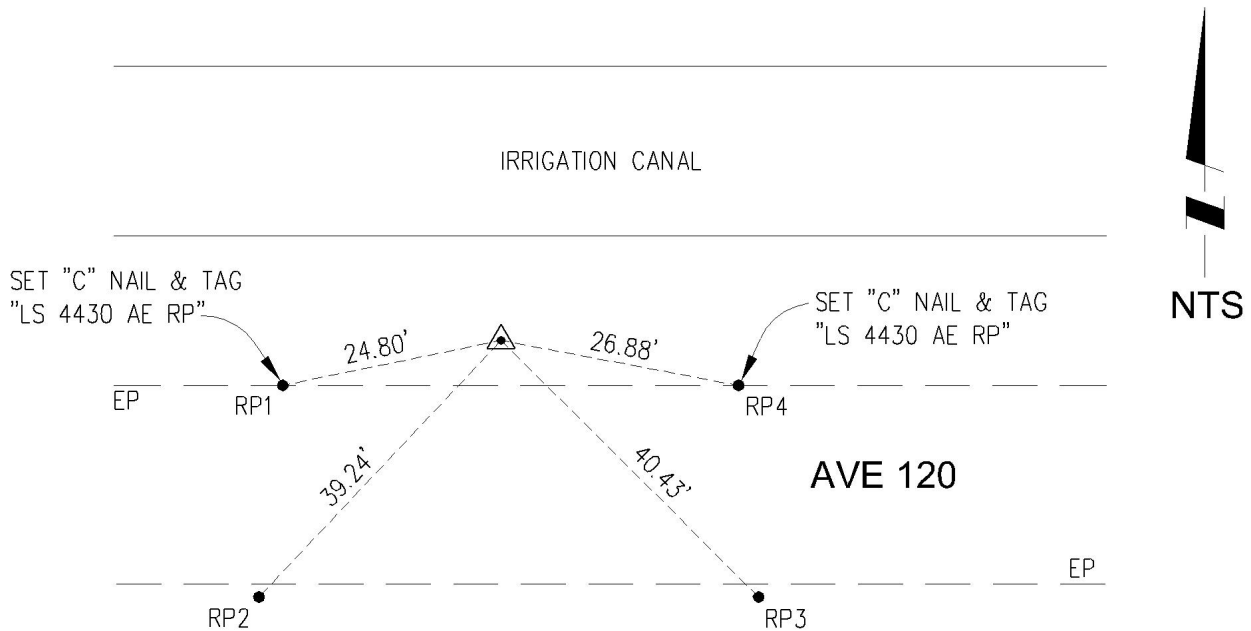


04/02/2014 - RFP No.: HSR 13-57

# SURVEY CONTROL MONUMENT TIE SHEET

Sheet of

PARTY CHIEF: J. TERRY	R. WILLIAMS	DATE OF SURVEY: 9/20/2011	DESIGNATION: <b>S247</b>
--------------------------	-------------	------------------------------	-----------------------------



## LEGEND:

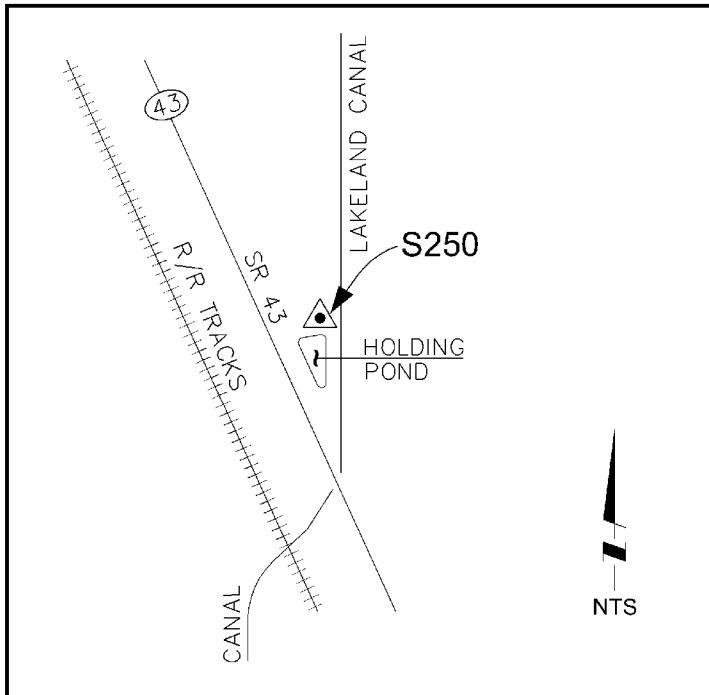
- CONTROL POINT, 2 1/2" BRONZE DISK IN 1" IRON PIPE IN 8" CONC. PIER, STAMPED "CHSRA S247 LS 4430 2011"
- REFERENCE POINT, SET 5/8" REBAR WITH PLASTIC PLUG, STAMPED "AE RP LS 4430" UNLESS OTHERWISE NOTED.

Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S247			5.05			2-1/2" BRONZE DISK
	4.66					
RP4			4.38			NAIL & TAG LS 4430
	4.84					
RP3			5.07			5/8" REBAR LS 4430
	5.11					
RP2			4.83			5/8" REBAR LS 4430
	4.33					
RP1			4.53			NAIL & TAG LS 4430
	4.92					
S247						2-1/2" BRONZE DISK



04/02/2014 - RFP No.: HSR 13-57

SURVEY CONTROL MONUMENT DATA SHEET Sheet of



Designation: **S250**

Date: 11/17/2011

Monument Description:  
2 1/2" Bronze Disk in 1" Iron  
Pipe in 8" Concrete Pier



**To Reach:**

In the County of Tulare, from the intersection of Highway 43 and Lakeland Canal, proceed north on Highway 43 for 300 feet to the Monument on the right. Monument is located on the north side of holding pond, 50 feet west of the Canal.

**HORIZONTAL**

**DATUM: NAD 83 (NSRS2007)**

**EPOCH: 2007.00**

Geodetic Coordinates	Degrees	Minutes	Seconds	
Latitude :	35°	58'	29.73925"	N
Longitude :	119°	27'	56.18484"	W

**California Coordinate System (CCS83) US Survey Feet**

<b>Zone 4</b>	<b>Northing</b> :	1874322.53	
	<b>Easting</b> :	6423890.83	<b>Comb. Factor: 1.00000113</b>

**VERTICAL**

	US Survey Feet	Method
<b>NAVD88:</b>	187.96	Levels/GPS

Vertical elevations were established from differential levels between primary control monuments.



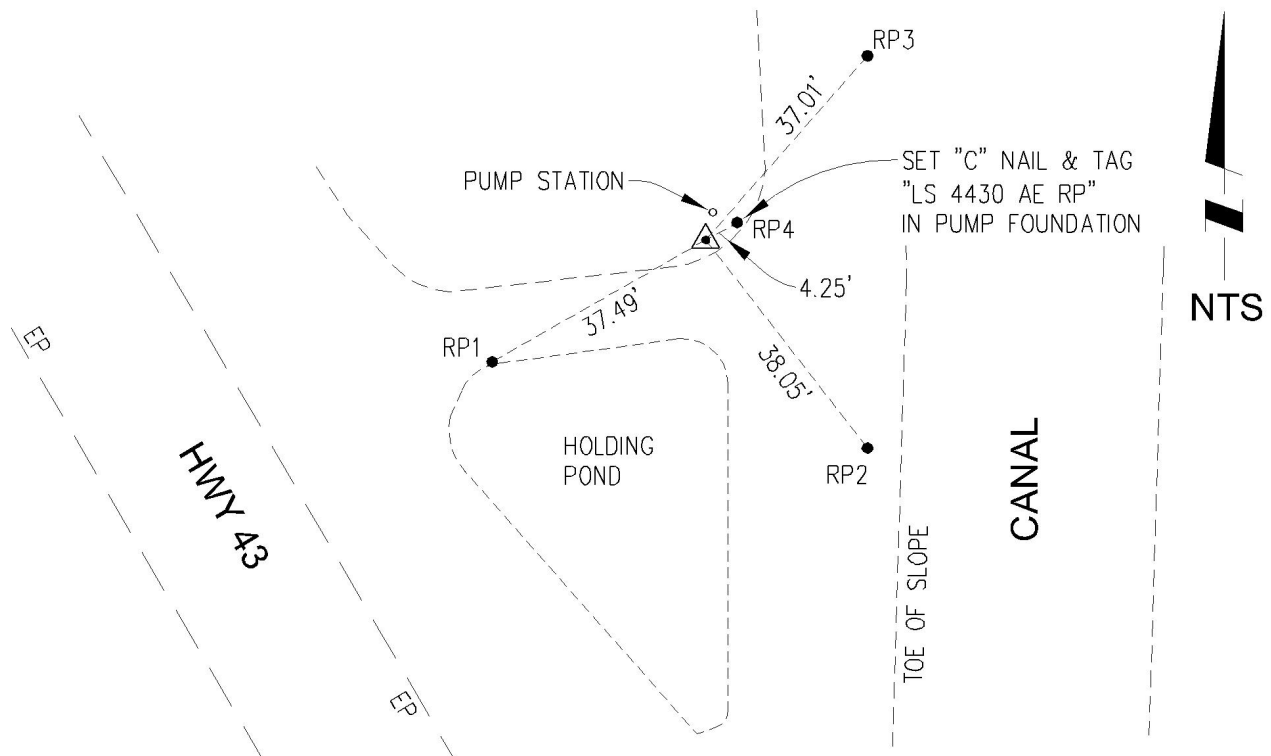
04/02/2014 - RFP No.: HSR 13-57

T:\13259DCAHST\SUR\DWG\CONTROL\_MONUMENTS\_TYPICAL\DATASHEETS\MDS S250.DOC

# SURVEY CONTROL MONUMENT TIE SHEET

Sheet of

PARTY CHIEF: J. TERRY	R. WILLIAMS	DATE OF SURVEY: 9/20/2011	DESIGNATION: <b>S250</b>
--------------------------	-------------	------------------------------	-----------------------------



## LEGEND:

- CONTROL POINT, 2 1/2" BRONZE DISK IN 1" IRON PIPE IN 8" CONC. PIER, STAMPED "CHSRA S250 LS 4430 2011"
- REFERENCE POINT, SET 5/8" REBAR WITH PLASTIC PLUG, STAMPED "AE RP LS 4430" UNLESS OTHERWISE NOTED.

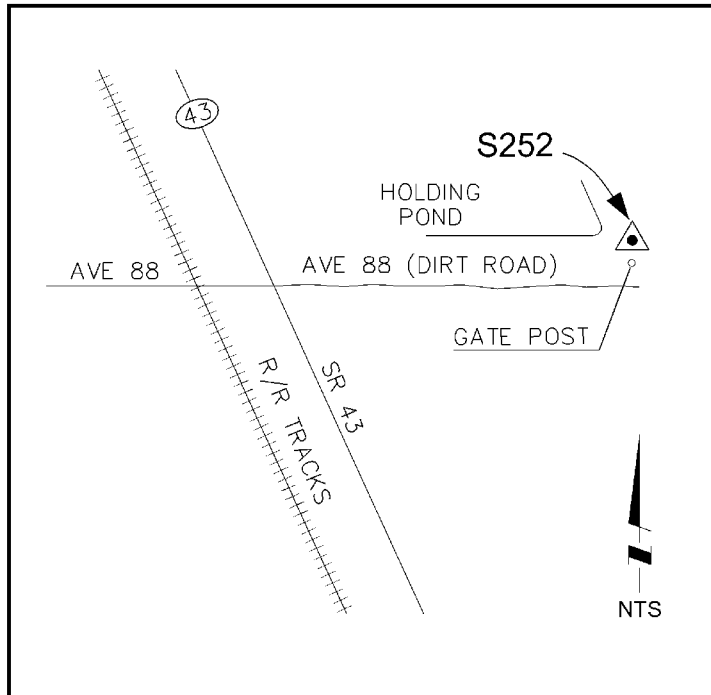
Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S250			5.60			2-1/2" BRONZE DISK
	5.08					
RP4			5.32			NAIL & TAG LS 4430
	5.67					
RP3			5.42			5/8" REBAR LS 4430
	4.97					
RP2			5.21			5/8" REBAR LS 4430
	5.88					
RP1			5.60			5/8" REBAR LS 4430
	5.55					
S250						2-1/2" BRONZE DISK



04/02/2014 - RFP No.: HSR 13-57



SURVEY CONTROL MONUMENT DATA SHEET Sheet of



Designation: **S252**

Date: 11/17/2011

Monument Description:  
2 1/2" Bronze Disk in 1" Iron  
Pipe in 8" Concrete Pier



**To Reach:**

In the County of Tulare, from the intersection of Highway 43 and Avenue 88, proceed east along dirt road 300 feet to a gate. Monument is 2 feet north of the north gate post.

**HORIZONTAL**

DATUM: NAD 83 (NSRS2007)

EPOCH: 2007.00

**Geodetic Coordinates**

	Degrees	Minutes	Seconds	
Latitude :	35°	56'	57.47416"	N
Longitude :	119°	26'	48.05048"	W

**California Coordinate System (CCS83) US Survey Feet**

Zone 4	Northing :	1864966.02	
	Easting :	6429447.78	Comb. Factor: 1.00000584

**VERTICAL**

	US Survey Feet	Method
NAVD88:	196.88	Levels/GPS

Vertical elevations were established from differential levels between primary control monuments.

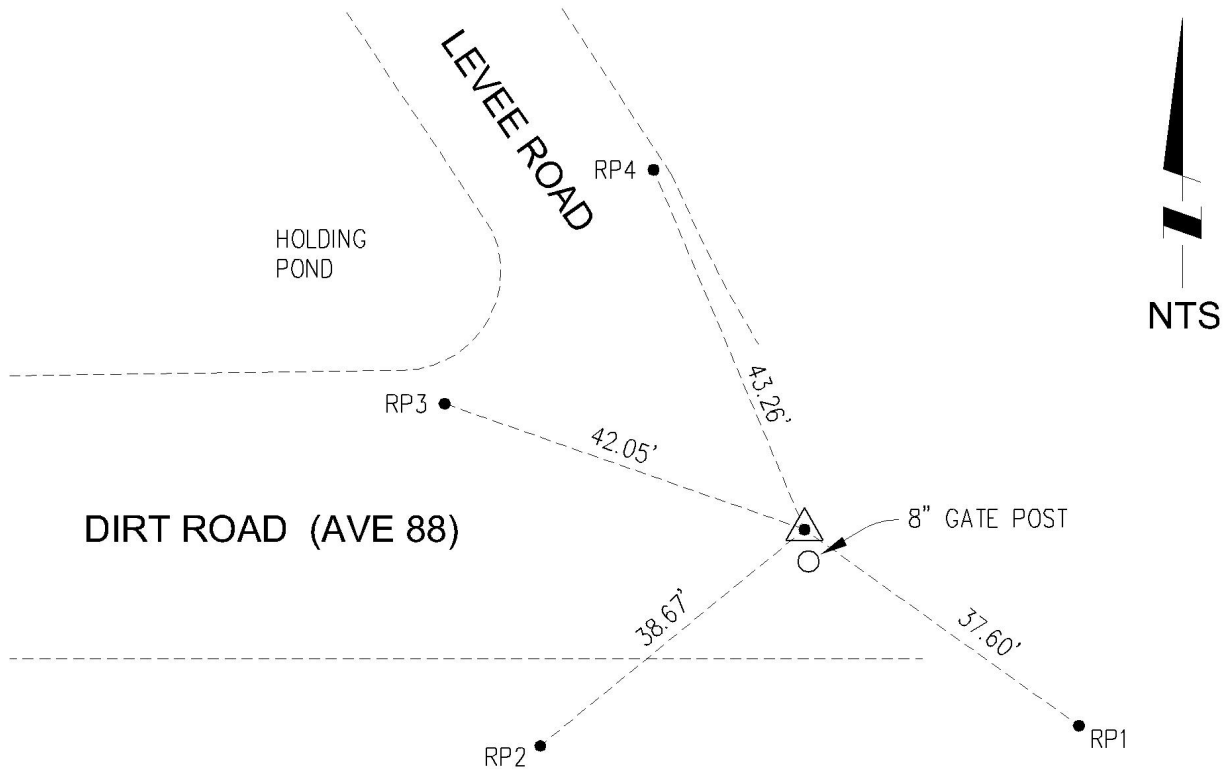


04/02/2014 - RFP No.: HSR 13-57

# SURVEY CONTROL MONUMENT TIE SHEET

Sheet of

PARTY CHIEF: J. TERRY	R. WILLIAMS	DATE OF SURVEY: 9/20/2011	DESIGNATION: <b>S252</b>
--------------------------	-------------	------------------------------	-----------------------------



## LEGEND:

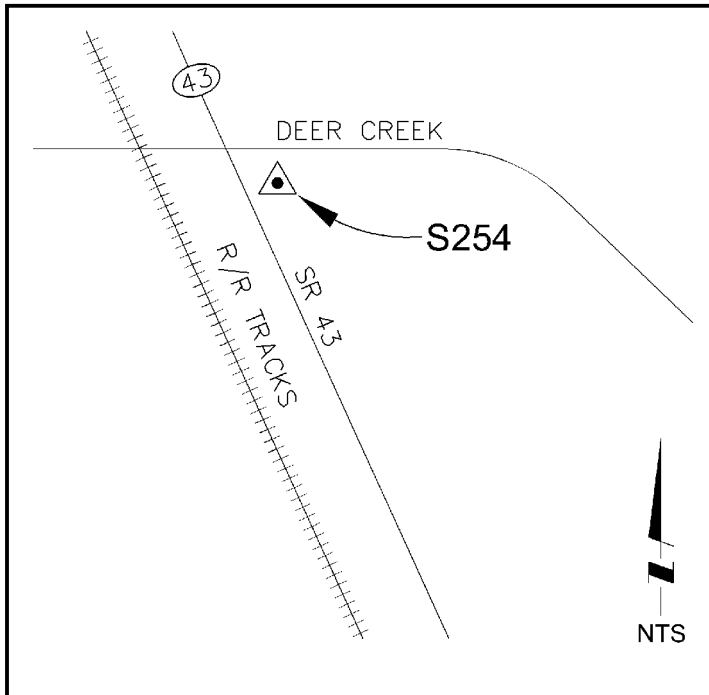
- CONTROL POINT, 2 1/2" BRONZE DISK IN 1" IRON PIPE IN 8" CONC. PIER, STAMPED "CHSRA S252 LS 4430 2011"
- REFERENCE POINT, SET 5/8" REBAR WITH PLASTIC PLUG, STAMPED "AE RP LS 4430" UNLESS OTHERWISE NOTED.

Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S252			5.39			2-1/2" BRONZE DISK
	4.46					
RP4			4.14			5/8" REBAR LS 4430
	3.74					
RP3			4.08			5/8" REBAR LS 4430
	5.79					
RP2			5.47			5/8" REBAR LS 4430
	5.48					
RP1			5.70			5/8" REBAR LS 4430
	5.31					
S252						2-1/2" BRONZE DISK



04/02/2014 - RFP No.: HSR 13-57

**SURVEY CONTROL MONUMENT DATA SHEET** Sheet      of



**Designation: S254**

**Date: 11/17/2011**

**Monument Description:**  
**2 1/2" Bronze Disk in 1" Iron**  
**Pipe in 8" Concrete Pier**



**To Reach:**

In the County of Tulare, from the intersection of Highway 43 and Deer Creek, Monument is located in the southeast quadrant.

**HORIZONTAL**

**DATUM: NAD 83 (NSRS2007)**

**EPOCH: 2007.00**

**Geodetic Coordinates**

	<b>Degrees</b>	<b>Minutes</b>	<b>Seconds</b>	
<b>Latitude</b> :	35°	55'	11.93265"	N
<b>Longitude</b> :	119°	25'	33.85021"	W

**California Coordinate System (CCS83) US Survey Feet**

<b>Zone 4</b>	<b>Northing</b> :	1854265.85	
	<b>Easting</b> :	6435501.36	<b>Comb. Factor: 1.00001182</b>

**VERTICAL**

	<b>US Survey Feet</b>	<b>Method</b>
<b>NAVD88:</b>	199.78	Levels/GPS

Vertical elevations were established from differential levels between primary control monuments.



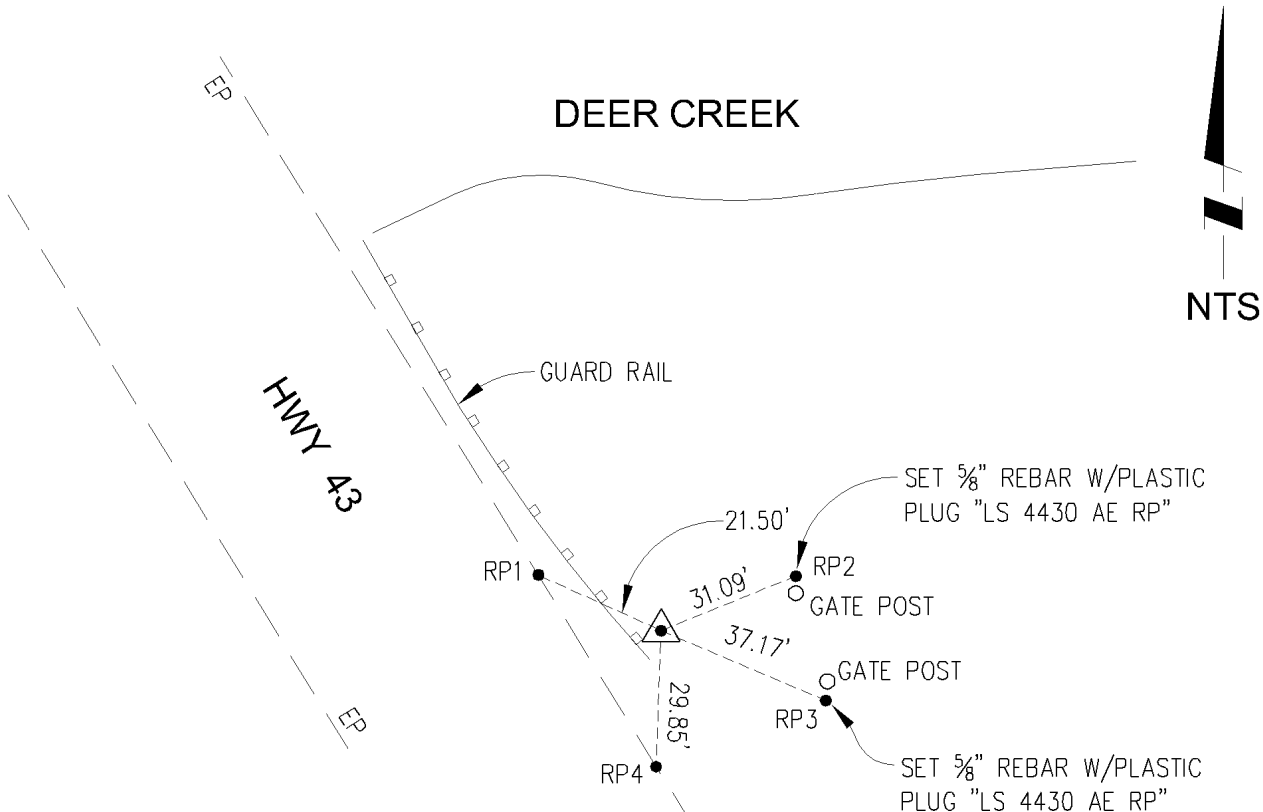
04/02/2014 - RFP No.: HSR 13-57

T:\13259DCAHST\SUR\DWG\CONTROL\_MONUMENTS\_TYPICAL\DATASHEETS\MDS S254.DOC

# SURVEY CONTROL MONUMENT TIE SHEET

Sheet of

PARTY CHIEF: J. TERRY	R. WILLIAMS	DATE OF SURVEY: 9/20/2011	DESIGNATION: <b>S254</b>
--------------------------	-------------	------------------------------	-----------------------------



## LEGEND:

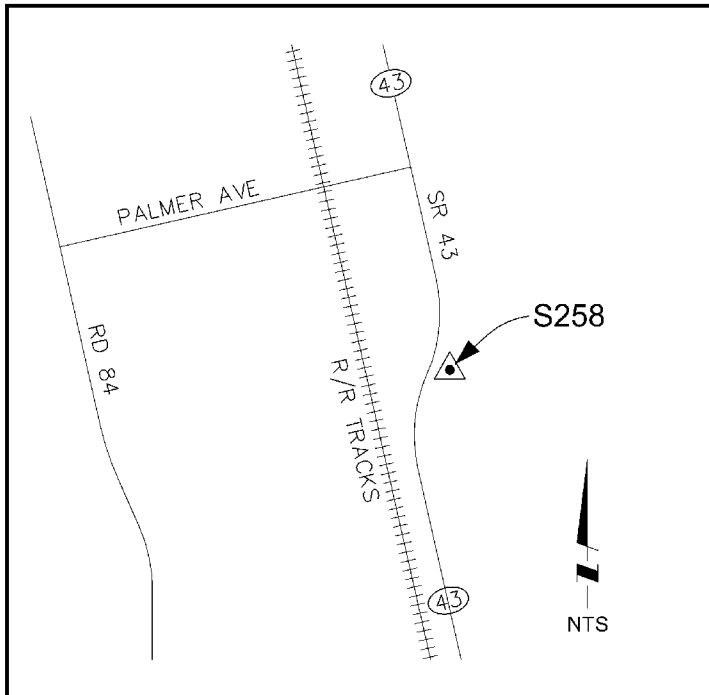
- △ CONTROL POINT, 2 1/2" BRONZE DISK IN 1" IRON PIPE IN 8" CONC. PIER, STAMPED "CHSRA S254 LS 4430 2011"
- REFERENCE POINT, SET "C" NAIL AND TAG, STAMPED "AE RP LS 4430" UNLESS OTHERWISE NOTED.

Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S254			4.87			2-1/2" BRONZE DISK
	5.15					
RP4			5.49			NAIL & TAG LS 4430
	5.38					
RP3			5.10			5/8" REBAR LS 4430
	4.91					
RP2			5.21			5/8" REBAR LS 4430
	5.64					
RP1			5.35			NAIL & TAG LS 4430
	4.94					
S254						2-1/2" BRONZE DISK



04/02/2014 - RFP No.: HSR 13-57

SURVEY CONTROL MONUMENT DATA SHEET Sheet of



Designation: **S258**

Date: **9/28/2011**

Monument Description:  
**2 1/2" Bronze Disk in 1" Iron  
Pipe in 8" Concrete Pier**



**To Reach:**

In the County of Tulare, from the intersection of Highway 43 and Palmer Avenue (Allensworth), proceed south on Highway 43, 0.1 mile to a curved portion of Highway 43, to the monument on the left.

**HORIZONTAL**

**DATUM: NAD 83 (NSRS2007)**

**EPOCH: 2007.00**

Geodetic Coordinates		Degrees	Minutes	Seconds	
Latitude	:	35°	51'	45.20135"	N
Longitude	:	119°	23'	01.60461"	W

**California Coordinate System (CCS83) US Survey Feet**

<b>Zone 4</b>	<b>Northing</b>	:	1833308.11	<b>Comb. Factor:</b>	1.00002442
	<b>Easting</b>	:	6447940.56		
<b>Zone 5</b>	<b>Northing</b>	:	2503106.27	<b>Comb. Factor:</b>	1.00010592
	<b>Easting</b>	:	6151586.78		

**VERTICAL**

	US Survey Feet	Method
<b>NAVD88:</b>	202.42	Levels/GPS

Vertical elevations were established from differential levels between primary control monuments.



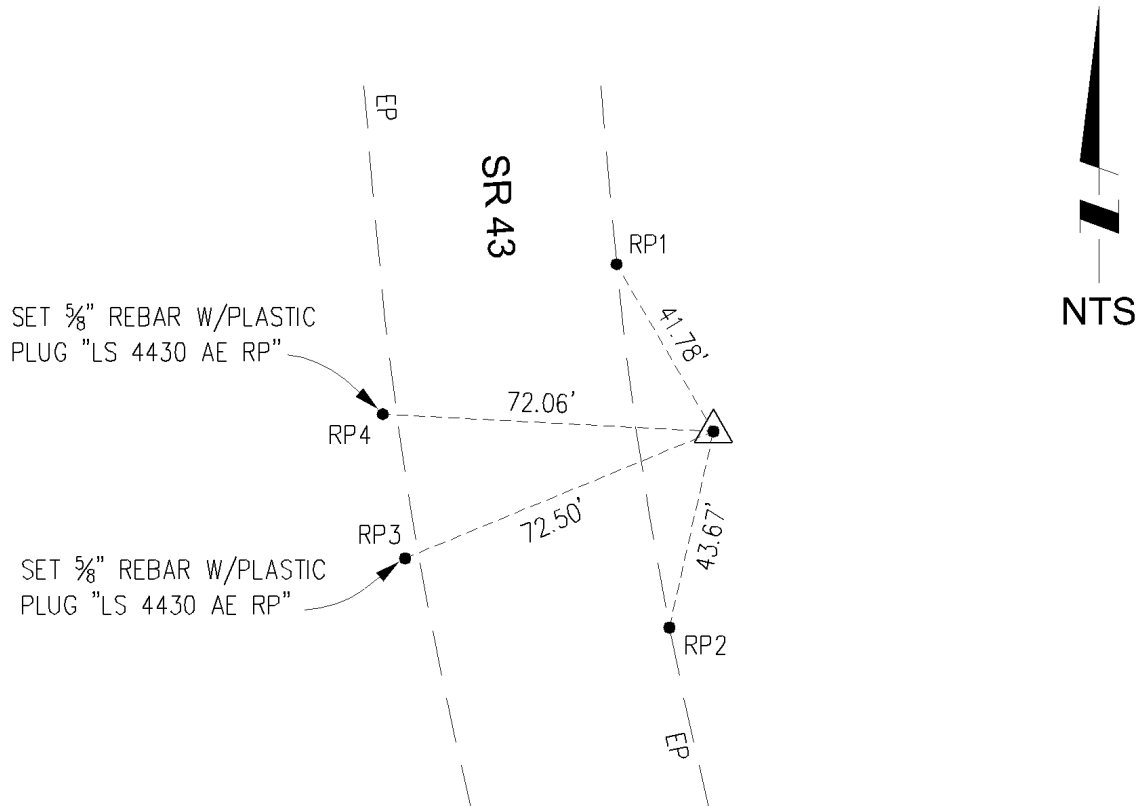
04/02/2014 - RFP No.: HSR 13-57



# SURVEY CONTROL MONUMENT TIE SHEET

Sheet of

PARTY CHIEF: J. TERRY	R. WILLIAMS	DATE OF SURVEY: 9/20/2011	DESIGNATION: <b>S258</b>
--------------------------	-------------	------------------------------	-----------------------------



## LEGEND:

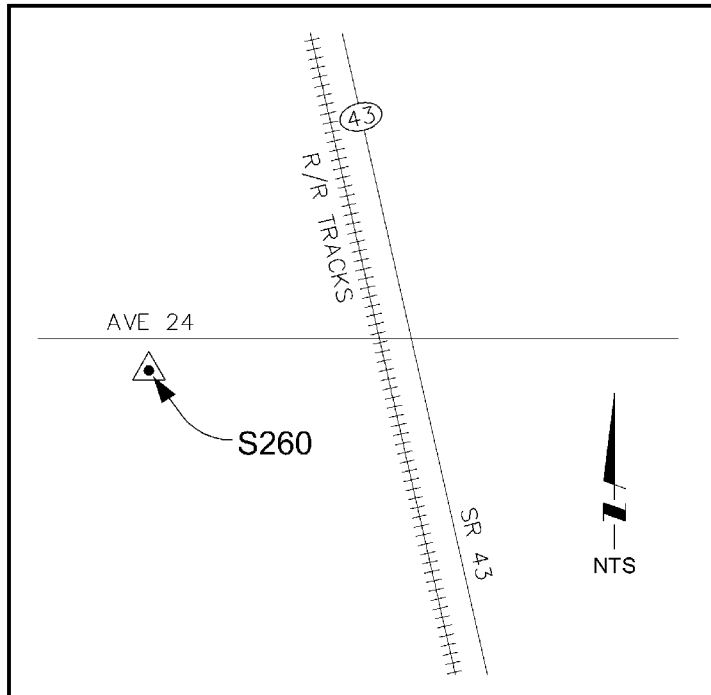
- CONTROL POINT, 2 1/2" BRONZE DISK IN 1" IRON PIPE IN 8" CONC. PIER, STAMPED "CHSRA S258 LS 4430 2011"
- REFERENCE POINT, SET "C" NAIL AND TAG, STAMPED "AE RP LS 4430" UNLESS OTHERWISE NOTED.

Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S258			5.03			2-1/2" BRONZE DISK
	5.00					
RP4			5.24			5/8" REBAR LS 4430
	4.99					
RP3			5.32			5/8" REBAR LS 4430
	3.92					
RP2			3.46			NAIL & TAG LS 4430
	3.10					
RP1			3.36			NAIL & TAG LS 4430
	5.40					
S258						2-1/2" BRONZE DISK



04/02/2014 - RFP No.: HSR 13-57

SURVEY CONTROL MONUMENT DATA SHEET Sheet      of



**Designation: S260**

**Date: 9/28/2011**

**Monument Description:**  
**2 ½" Bronze Disk in 1" Iron**  
**Pipe in 8" Concrete Pier**



**To Reach:**

In the County of Tulare, from the intersection of Highway 43 and Avenue 24, proceed west along Avenue 24, 0.3 mile to the monument on the left.

**HORIZONTAL**

**DATUM: NAD 83 (NSRS2007)**

**EPOCH: 2007.00**

Geodetic Coordinates		Degrees	Minutes	Seconds	
Latitude	:	35°	50'	00.79553"	N
Longitude	:	119°	22'	29.41012"	W

**California Coordinate System (CCS83) US Survey Feet**

<b>Zone 4</b>	<b>Northing</b>	:	1822739.96	<b>Comb. Factor:</b>	1.00003072
	<b>Easting</b>	:	6450549.42		
<b>Zone 5</b>	<b>Northing</b>	:	2492512.36	<b>Comb. Factor:</b>	1.00009569
	<b>Easting</b>	:	6154092.41		

**VERTICAL**

	US Survey Feet	Method
<b>NAVD88:</b>	213.07	Levels/GPS

Vertical elevations were established from differential levels between primary control monuments.

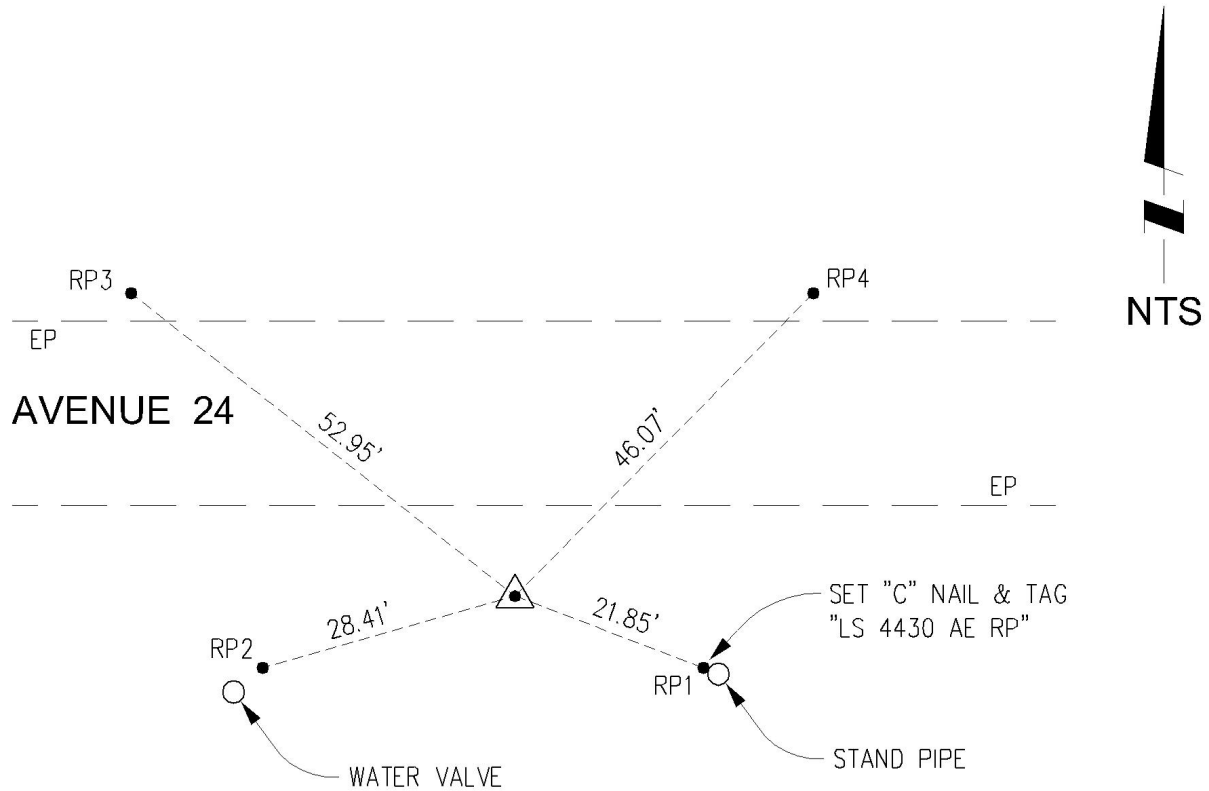


04/02/2014 - RFP No.: HSR 13-57

# SURVEY CONTROL MONUMENT TIE SHEET

Sheet of

PARTY CHIEF: J. TERRY	R. WILLIAMS	DATE OF SURVEY: 9/20/2011	DESIGNATION: <b>S260</b>
--------------------------	-------------	------------------------------	-----------------------------



## LEGEND:

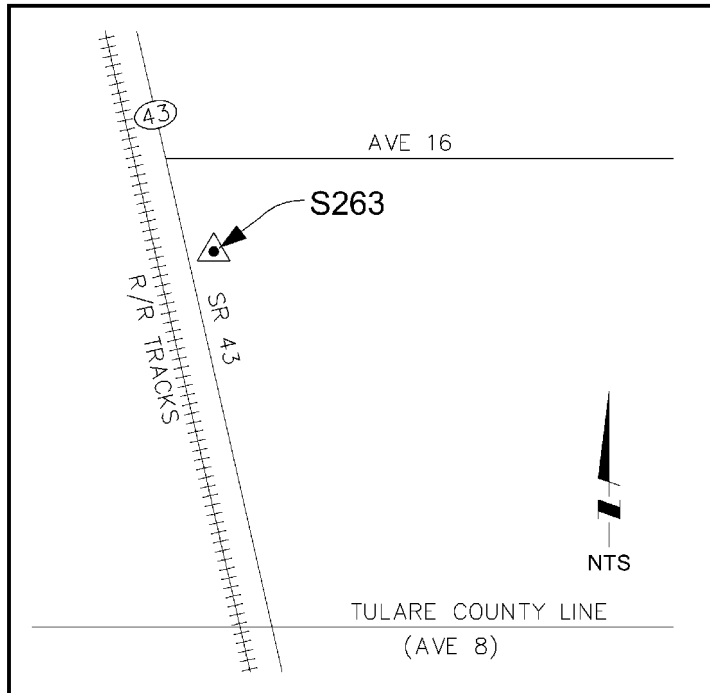
- CONTROL POINT, 2 1/2" BRONZE DISK IN 1" IRON PIPE IN 8" CONC. PIER, STAMPED "CHSRA S260 LS 4430 2011"
- REFERENCE POINT, SET 5/8" REBAR WITH PLASTIC PLUG, STAMPED "AE RP LS 4430" UNLESS OTHERWISE NOTED.

Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S260			5.13			2-1/2" BRONZE DISK
	3.07					
RP4			2.86			5/8" REBAR LS 4430
	4.33					
RP3			4.57			5/8" REBAR LS 4430
	4.46					
RP2			3.96			5/8" REBAR LS 4430
	2.54					
RP1			2.77			NAIL & TAG LS 4430
	4.89					
S260						2-1/2" BRONZE DISK



04/02/2014 - RFP No.: HSR 13-57

SURVEY CONTROL MONUMENT DATA SHEET Sheet of



Designation: **S263**

Date: **9/28/2011**

Monument Description:  
**2 1/2" Bronze Disk in 1" Iron  
 Pipe in 8" Concrete Pier**



**To Reach:**

In the County of Tulare, from the intersection of Highway 43 and Tulare County Line, proceed north on Highway 43, 1.0 mile to the monument on the right.

**HORIZONTAL**

**DATUM: NAD 83 (NSRS2007)**

**EPOCH: 2007.00**

Geodetic Coordinates		Degrees	Minutes	Seconds	
Latitude	:	35°	48'	17.02841"	N
Longitude	:	119°	21'	36.08734"	W

**California Coordinate System (CCS83) US Survey Feet**

<b>Zone 4</b>	<b>Northing</b>	:	1812230.04	<b>Comb. Factor:</b>	1.00003708
	<b>Easting</b>	:	6454900.93		
<b>Zone 5</b>	<b>Northing</b>	:	2481959.79	<b>Comb. Factor:</b>	1.00008564
	<b>Easting</b>	:	6158341.19		

**VERTICAL**

	US Survey Feet	Method
<b>NAVD88:</b>	226.50	Levels/GPS

Vertical elevations were established from differential levels between primary control monuments.

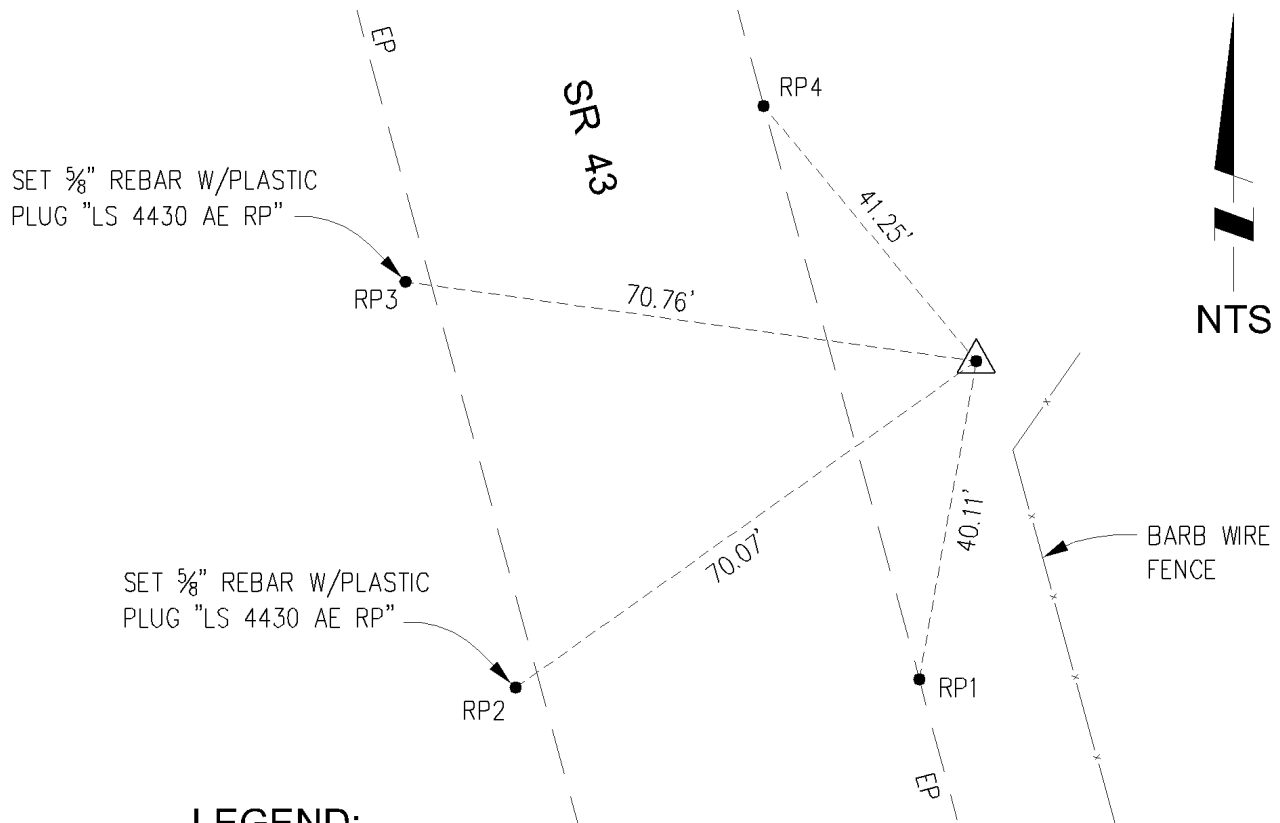


04/02/2014 - RFP No.: HSR 13-57

# SURVEY CONTROL MONUMENT TIE SHEET

Sheet of

PARTY CHIEF: J. TERRY	R. WILLIAMS	DATE OF SURVEY: 9/20/2011	DESIGNATION: <b>S263</b>
--------------------------	-------------	------------------------------	-----------------------------



## LEGEND:

- △ CONTROL POINT, 2 1/2" BRONZE DISK IN 1" IRON PIPE IN 8" CONC. PIER, STAMPED "CHSRA S263 LS 4430 2011"
- REFERENCE POINT, SET "C" NAIL AND TAG, STAMPED "AE RP LS 4430" UNLESS OTHERWISE NOTED.

Station	Back (+)	H.I.	Fore (-)	Elevation	Adj. Elev.	Description
S263			5.13			2-1/2" BRONZE DISK
	3.07					
RP4			2.86			NAIL & TAG LS 4430
	4.33					
RP3			4.57			5/8" REBAR LS 4430
	4.46					
RP2			3.96			5/8" REBAR LS 4430
	2.54					
RP1			2.77			NAIL & TAG LS 4430
	4.89					
S263						2-1/2" BRONZE DISK



04/02/2014 - RFP No.: HSR 13-57